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January 15, 2003

Marion C. Blakey, Administrator
Federal Aviation Administration
800 Independence Ave, S.W.
Washington, D.C., 20591

FAA-03-14951-1

Dear Administrator Blakey,

This complaint is submitted under the Paperwork Reduction Act of 1995 (44 USC §§ 3501 *et seq.*) and Data Quality Act of 2001 (44 USC § 3516 (Note)). The complaint exposes one key fact and raises one key legal issue.

The key fact is that the Federal Aviation Administration (FAA) - a subordinate branch of the Department of Transportation (DOT) - currently produces and disseminates four "studies" produced under OAM research Task AAM-00-HRR-520 that it knows - or should know - are false and misleading in the information (including statistical information) that they disseminate.¹ Further, FAA relies on these new flawed studies - three of them statistical - in order to bolster its decades-long, similarly flawed effort to

¹ The four studies are:

Report 1: Schroeder, D., *et al.* Pilot Age and performance. An annotated bibliography (1990-1999), FAA-Civil Aeromedical Institute OAM research task AAM-00-A-HRR-520, undated.

Report 2: Broach, D., Pilot Age and Accident Rates: A Re-analysis of the 1999 Chicago Tribune Report and Discussion of Technical Considerations for Future Analyses, FAA-Civil Aeromedical Institute OAM research task AAM-00-A-HRR-520, undated.

Report 3: Broach, D., *et al.*, An Analysis of Professional Air Transport Pilot Accident Rates by Age, FAA-Civil Aeromedical Institute OAM research task AAM-00-A-HRR-520, July 21, 2000.

Report 4: Broach, D., *et al.*, Pilot Age and Accident Rates Report 4: An Analysis of Professional ATP and Commercial Pilot Accident Rates by Age, FAA-Civil Aeromedical Institute OAM research task AAM-00-A-HRR-520, September 6, 2000.

All four of these FAA/CAMI studies are hereby incorporated into this letter by reference.

justify and defend its so-called age 60 rule.² The age 60 rule is a FAA regulation that forces air carrier pilots out of service on their 60th birthday.³

The information FAA has historically relied on to justify its age 60 rule appears in different studies prepared by different investigators, most of which were prepared by, or under contract to, the FAA, itself.⁴ The statistical studies that FAA does promote - including three of the four new OAM studies complained of here - are invalid for any purpose. They are particularly invalid as support for the age 60 rule because they all derive from analyses that are methodologically flawed *by the rule* so as to justify itself through the false and misleading *appearance* of an increase in risk beginning precisely at age 60.⁵

² Originally enacted (1959) under Part 40, the rule has since morphed into 14 CFR § 121.383(c):

No certificate holder may use the services of any person as a pilot on an airplane engaged in operations under this part if that person has reached his 60th birthday. No person may serve as a pilot on an airplane engaged in operations under this part if that person has reached his 60th birthday.

Until December 20, 1995, the rule applied only to pilots and carriers operating larger aircraft - those with 31 or more passenger seats. On that date, carriers operating smaller aircraft (generally those with 10-30 passenger seats) were required to recertify under Part 121. Compliance with most of the new, Part 121 rules were required by December 29, 1996, but compliance with age-60 was not required until December 20, 1999 - essentially granting a blanket, 4-year waiver for pilots employed by these carriers in 1995. (See 60 Fed. Reg. 65832, 65843-44, December 20, 1995.)

³ Despite continuing controversy during the entire history of the rule - scientific, political, and legal - FAA has never granted an exemption to any other pilot petitioner(s).

⁴ As discussed more fully below, FAA ignores or buries the studies that fail to support its rule - or worse, contradict its rationale.

⁵ In all these studies, "risk" is computed as the quotient of "accident count" divided by "hours flown" (in units of 100,000 hours). Determining accident count, usually from the NTSB Accident database, is both simple and accurate. "Hours flown," on the other hand, are derived initially from the individual pilot's application for a medical certificate, then extracted and stored in the FAA's Comprehensive Airman Information System (CAIS).

Also stored in this CAIS are, *inter alia*, data on the individual pilot's age, occupation, employer, recent (last 6 months), and total (lifetime) flight hours. With the exception of Booze (1978) (see Introduction and Factual Background beginning p. 9), each of the studies discussed here "annualizes" the CAIS stored flight hours in units of 100,000 hours.

With the exception of Kay (1993),⁶ all of the statistical analyses the FAA relies upon create their false *appearance* of an increase in risk by aggregating large amounts of extraordinarily safe air carrier pilot data with those of various other classes of far less safe pilots.⁷ Using this heterogeneous data, these studies then create a single, age-risk profile for the combined groups.⁸ Because air carrier pilots are the safest class, by far, and contribute a disproportionate amount of flight hours to the denominator of the rate equation,⁹ their data significantly depresses the risk profile of the single, under age-60

⁶ Kay, E.J., *et al.*, Age 60 Project. Consolidated Database Experiments. Final Report, Hilton Systems Technical Report 8025-3C(R2) March 1993. CAMI Contract No. DTFA-02-90-90125.

⁷ See table at page 44.

⁸ Verifying data for the years 1976-1996 are available from three official FAA sources: 1) A report to congress on the effects of deregulation covering 1976-1988, prepared by the FAA in 1990; 2) an online version of the FAA's Statistical Handbook covering 1987-1996; and 3) Kay, E.J., *et al.*, Age 60 Project. Consolidated Database Experiments. Final Report, covering years 1976-1985, 1987-1988.

1) Deregulation Report: Annual Report on the Effect of the Airline Deregulation Act on the Level of Air Safety, Washington, D.C. June 1990. Report of the Secty. of Transportation pursuant to § 107 of the Airline Deregulation Act of 1978 (P.L. 95-504. See Figures 2-5, 2-7, 2-12, and 2-15 for flight hour data, and Tables 1, 3, 4, and 6 for accident counts from Parts 121 and 135 operations. These data demonstrate that Part 135 flight is 2 1/2 times more risky than Part 121 flying.

2) FAA's Statistical Handbook: <http://www.api.faa.gov/handbook96/toc96.htm>. Can be accessed on-line. Relevant data for all classes of flight operations appears in Tables 9-4, 9-8, 9-9, and 9-10. Note: data in Table 9-10 (flights conducted under FAR Part 91) includes both private recreational flying and flight hours accumulated in all professional endeavors other than air carriage (e.g., corporate, test, traffic reporting, pipeline survey, etc.). These data demonstrate that Part 91 flight is 37 times more risky, and "all non-Part 121" flying 13 times more risky than Part 121 flight alone.

3) Kay's Consolidated Database Experiments (a part of the Hilton Systems Age 60 Project) rigidly segregates risk data by medical certificate class. Kay finds that Medical Class 2 and 3 certificate holders suffer accident risks from 20 to 100 to 150 times that of Part 121 air carrier captains. (Estimated from Figures 5-5, 5-6, 5-7, and 5-8)

⁹ According to the FAA Statistical Handbook data referenced above, when all flying is considered, Part 121 pilots contribute 30% of the denominator flight hours but only 1% of the accident count. This dramatically disparate numerator/denominator ratio renders any statistical assessment of risk in which these Part 121 pilots (i.e., air carrier pilots) are included unrepresentative of any individual group or combination of groups.

pilot group in which they appear. It is this loss of the air carrier pilot flight hours when these pilots are forced into retirement at age 60 by the age 60 rule that produces the false and misleading *appearance* of an increase in risk beginning precisely at that age - the so-called "Age 60 Rule Effect."

Neither the egregious falsity of the misleading *appearance* of an increase in risk at age 60 produced, promoted, and relied upon by the FAA, nor the impropriety of the analytical techniques producing these flawed results are even marginally defensible.¹⁰ These flaws - both methodology and results - are acknowledged and fully explained in the lay and scientific press¹¹ - even by the FAA, itself.¹² When challenged on national

¹⁰ Nor are these complicated maneuvers necessary. All Part 121 (air carrier) captains must possess an Air Transport Pilot license and a current First Class medical certificate. In addition to all Part 121 captains - all subject to the age 60 rule - certain Part 135 captains - generally of aircraft with 10-29 passenger seats - are also required to possess an ATP pilot license and first class medical certificate. (See former 14 C.F.R. § 135.243(a).) Since these Part 135 pilot-captains were not subject to the age 60 rule during the entire time of these studies (*i.e.*, 1976-1988), they would have provided a single, unique surrogate population essentially identical to Part 121 air carrier captains for assessing risk associated with age under/over age 60. Moreover, in his "Database Queries" defined in Table B-6A, pg. B-7, Kay (Consolidated Database Experiments) modeled the screening parameters that would extract this data for these pilots from the FAA's CAIS database.

As all of these flawed studies were conducted by or under contract to the FAA, that these Part 135 pilot-captains were not so examined - either additionally *or instead* - is unconscionable, incomprehensible - and inexcusable.

¹¹ Stuck, A.E., *et al.*, *Multidimensional Risk Assessment versus Age as a Criterion for Retirement of Airline Pilots*, *Journal of the American Gerontological Society*, 40:526-532, 527, 1992.

Only one study covering the period 1976 to 1980 [Golaszewski] compared aircraft accident rates of over-60-year-old pilots with those of younger pilots. ... The accident rate of 60 to 69 year-old-pilots with a Class I medical certificate ... was found to be two times higher than that of 50 to 59-year-old pilots. The comparison is, however, problematic. While the accident rate for 60-69 year old pilots was calculated by the number of accidents in general aviation divided by the number of pilot hours flown in general and small commercial aviation aircraft, the accident rate for 50-59-year-old pilots was calculated differently. In the latter case, in addition to hours flown in general aviation and small commercial aircraft, pilot hours flown in large commercial aircraft were also included in the calculation of the accident rate. This results in an underestimation of the accident rate in 50-59-year-old pilots.

television regarding FAA's reliance on this flawed, yet "most frequently cited" of these studies - Golaszewski, 1983 - as support for the age 60 rule, the FAA's Deputy Administrator (Anthony Broderick) declined to reply. Also questioned while standing next to Broderick, however, the author of the study (Golaszewski) conceded that his study and its results were thus flawed, then explained that the study had not been intended to address the age 60 issue.¹³ Courts in two nations (the U.S. and Australia)

¹² As discussed more fully below, the 1983 Golaszewski study was rejected as a final product, and publication refused by the office and officer within FAA that had provided its technical supervision. In a letter to this writer, Mr. Kenneth Chin, Executive Officer, Office of the Assistant Administrator for Aviation Safety, dated July 24, 1991, Mr. Chin stated:

It should be noted that [the Golaszewski] study is unofficial because it was never formally published by the [FAA] or the office of the Assistant Administrator for Aviation Safety.

Under my management and technical direction, the analysts with Aviation Safety and contractor [personnel] supported [FAA] Operations Research Branch in the development of the concepts and information relating accident rates and pilot experience. We have not formally accepted this study as a final product because there are major data deficiencies. Other problems with the study have been discussed by experts in the aviation field as well as within my office. ...

Your use of this study to support any position may be questionable at best. ...

¹³ ABC NEWS 20/20, Too Old Too Soon, Show # 1006, February 9, 1990.

Stone Phillips (20/20 Moderator): But the accident rate study the FAA points to as the best scientific evidence [Golaszewski, 1983] was, in fact, never published and never intended to address the Age 60 issue. And critics say its not only irrelevant, it's incorrect because statistically speaking the study was stacked against the older pilots to begin with. Here's why. When the accident rates for pilots under 60 were figured, the statistician included more than 95 million hours of flying by commercial airline pilots without including a single airline accident. He left those accidents out, ignored them completely, so naturally, the younger pilots appeared to be flying more with fewer accidents than pilots in their 60's. The older pilots had no airline flying hours to count because the Age 60 Rule won't allow it. We asked the author of the study what would happen if all those additional airline hours were not included.

Golaszewski (Author): What you'd find is that the age-based difference ... would be less pronounced. And I have to grant you that. However, they'd probably still be a bit higher.

Phillips: Actually, just the opposite is true. When pilots challenging the Age 60 Rule had Golaszewski's accident rates recalculated without all those airline flying

have examined this study within the age 60 rule context. Both courts determined that the false and misleading *appearance* of an increase risk beginning at age 60 as promoted from this study's data is neither credible nor defensible.¹⁴

Apparently, however, it is to recreate, and thus revalidate this false and misleading *appearance* of an increase in risk beginning at age 60 that the FAA recently produced and currently disseminates these four new OAM research Task AAM-00-HRR-520 studies. A less direct - but no less real - purpose behind these four studies gives every appearance to be a conscious effort to conceal the underlying flaws by reinventing them under new authority. FAA currently promotes all four of these new OAM studies through its Civil Aeromedical Institute (CAMI) web site at:

http://www.cami.jccbi.gov/AAM-400A/AGE60/60_index.html.

Moreover, FAA/CAMI sponsored the principal author of these studies, FAA employee Dr. Dana Broach, to present partial results of the fourth and most seriously flawed of these analyses - essentially a replica of the 1983 Golaszewski study - at the annual Aerospace Medical Association Meeting, May 6-10, 2001 at Reno, Nevada. Dr. Broach's

hours, the accident rate for active pilots in their 40's and 50's was higher than for pilots in their 60's. And pilots in their 70's had the lowest accident rate of all.

Golaszewski: ... But you have to realize, in fairness, that I never set out to answer this question about the performance of airline pilots.

¹⁴ Allman v Australian Airlines Limited and Christie v. Qantas Airways Limited. Industrial Relations Court of Australia, No. NI. 879 of 1994, Wilcox CJ, 12 May 1995, at 59. [Appearing at 60 IR 17, Affirmed 68 IR 248, 14 June 1996.]

The Golaszewski study heavily influenced the OTA panel and is the foundation of Dr. Billings' present thinking. It is deeply flawed. To start with, it seems to me surprising for a study to take all accidents, without making any attempt to classify them according to cause. ... [But] there is a more significant point. The numerator [sic] Mr. Golaszewski used in calculating accident rates per 100,000 hours for pilots less than 60 years of age comprised hours flown in all types of operations, including the most safe (scheduled airline flights). The numerator [sic] he used in relation to over-60 pilots continued to include hours flown in the more risky types of operations, but none from the most safe (scheduled airline flights, which are 15 to 20 times more safe than general aviation operations). ... I find it surprising, when I take that point into account, that the increase in post-60 accident rate is a small as it is.

PowerPoint slides used in this public presentation are available - in Adobe Acrobat (.pdf) format - at

http://www.age60rule.com/docs/broach_reno_presntn.pdf.

Of seven different statistical analyses and reams of discussion contained in these four new OAM studies, all but one were "piggybacked" onto a request made by the Senate Appropriation Committee during its FY-2000 budget deliberations.¹⁵ As an opening comment, the Committee charged that the agency's intransigence with respect to the age 60 rule was "moving against the international aviation community and contrary to our own national trends." The Committee then directed¹⁶ the FAA to perform one precisely defined statistical analysis - itself invalid on its face¹⁷ - of age vs accident rate.

The Committee directs the FAA to conduct a survey of all available non-scheduled commercial (and non-commercial, if available) data concerning the relative accident data correlated with the amount of flying by pilots as a function of their age for pilots age 60-63 and comparing it with all four year groupings of scheduled commercial pilots (and non-commercial pilots, if available) declining from age 60, i.e., 56-59, 55-58, 54-57, *** to 21-24. etc. In addition, compare the discernable groups in their entirety and track frequency as a function of age. [At 80.]

None of the analyses presented in Reports 2 and 3, and only the first of three analyses presented in Report 4 was directly responsive to the Committee's request. This one responsive analysis, however, appears to have been since ignored by the FAA in favor of the third - and most flawed - of this Report's three analyses - a virtual replica of the rejected and discredited 1983 Golaszewski study. All four of these studies stand,

¹⁵ U.S. Senate Committee on Appropriations, *Department of Transportation and Related Agencies Appropriations Bill, 2000*, S. Rep. 106-55, 106th Cong., 1st Sess., 79-80 (May 27, 1999).

¹⁶ Although the language of S. Rep. 106-55 "directs" the FAA to perform the defined study, the "order" (direction/restriction on expenditures, etc.) became a mere request when it was not included in the final agency appropriation.

¹⁷ The insensitivity of the overlapping age groups - of minor relative significance - was recognized by Broach. The major faults of heterogeneous pilot groupings and demographic distortions at age 60 by the age 60 rule, itself, are ignored or misrepresented by Broach - as discussed extensively, below.

separately and collectively, as violations of the FAA's duties under the Paperwork Reduction and Data Quality Acts.

The key legal issue raised here is that the Paperwork Reduction and Data Quality Acts, together with resulting Office of Management and Budget (OMB) guidelines,¹⁸ expressly prohibit DOT and FAA from producing, disseminating, and relying upon flawed and misleading information such as is reported here in the conduct of their regulatory activities. The Paperwork Reduction and Data Quality Acts further impose management and oversight responsibilities upon OMB to "ensure[] and maximize[] the quality, objectivity, utility, and integrity of information (including statistical information)" that federal administrative agencies such as DOT and FAA disseminate to the public and rely upon in the performance of their regulatory functions.¹⁹ Further, the Data Quality Act provides for an affected person such as myself to seek and obtain correction of these invalid statistical activities, and the false and misleading information that DOT and FAA currently act upon and disseminate to the public,²⁰ irrespective of when they were originally produced.²¹

The FAA should immediately, and on its own authority: 1) disavow all the earlier "statistical" representations of increased risk above age 60 proffered in support of its age 60 rule as methodologically flawed; 2) publicly and explicitly disavow the 1983 Golaszewski Flight Time Study as methodologically flawed, and its results inappropriate for age 60 rule analysis; 3) remove all four of the OAM Research Task AAM-00-A-HRR-520 reports from its CAMI website; 4) post in their place an explanation of the

¹⁸ Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, Notice, Republication, 67 F.R. 8452 *et seq.*, February 22, 2002.

¹⁹ Pub.L. 106-554 § 1(a)(3), Dec. 21, 2000; 44 U.S.C. § 3516. Note, (a). *See also* Guidelines, § I. [67 Fed.Reg. 8458.]

²⁰ 44 U.S.C. § 3516, Note, (b)(2)(B). *See also* Guidelines, §§ II(2) and III(3). [67 Fed.Reg. 8458-59.]

²¹ Guidelines, § III(4). [67 Fed.Reg. 8459.]

reason for their flawed results as well as the reason for their removal, and other actions as set forth in the CONCLUSION, below.

If FAA is unable or unwilling to take this action on its own, DOT/FAA should be required to do so by OMB under its oversight authority arising under the Paperwork Reduction and Data Quality Acts.

INTRODUCTION AND FACTUAL BACKGROUND

The age 60 rule was enacted December 5, 1959, to become effective March 15, 1960.²² For its enactment, and during the first two decades of its existence (1959-1981), the FAA "justified" the rule with unsupported, conclusory claims of concern for medical uncertainties - potential for pilot incapacitation during flight and/or degradation of cognitive function due to the aging process. The official, Federal Register notice of enactment justified the regulation with, for example, this semi-coherent declaration:²³

The possible hazards inherent in the older pilot's medical condition are entirely too serious to determine the question of safety by an attempt to balance the increased chances of an incapacitating attack against the possibility that the pilot might not be engaged in the carriage of a large number of passengers at the time of such attack.

In its official "Press Release," accompanying the rule's promulgation, however, FAA admitted that there was neither operational nor historical support for its new regulation - i.e., no accident history.²⁴

Q. Has it been demonstrated that age is a factor in the occurrence of air carrier accidents?

A. No. Fortunately there are very few air carrier accidents. ...

Indeed, a 1966 study revealed that in the decade preceding the rule's enactment, no accident or incident had resulted even though there had been six pilot deaths while "at

²² NPRM, Maximum Age Limitations for Pilots, 24 Fed. Reg. 5247 (Jun. 27, 1959).
Final Rule, Maximum Age Limitations for Pilots, 24 Fed. Reg. 9767 (Dec. 5, 1959).

²³ 24 Fed. Reg. 9767, December 5, 1959.

work."²⁵ Moreover, the ages at which these pilots died - 28, 36, 44, 47, 50, and 52 - defined no age-related pattern, certainly none implicating either old age generally, or age 60 specifically. In each of the in-flight pilot deaths, the other pilot had continued the flight uneventfully - as the FAA readily admits the multiple-pilot, fail-safe air carrier system is designed for.²⁶

Rep. Biaggi. Last question for Mr. Taylor. You heard testimony of the preceding witnesses who said that in the event of the demise or incapacitation of a pilot at a *fail-safe operation*. How would you comment on that observation?

Mr. Taylor (Deputy FAA Administrator). Let me see whether I understand your question.

Rep. Biaggi. *In other words, the pilot has a heart attack. The rest of the crew automatically takes over with no problem;* is that factual or would you like to elaborate on that?

Mr. Taylor. *There is no doubt in my mind that that is factual. That is true.* [Emphasis added.]

With no empirical data to support the rule's prohibitions - and ignoring the fail-safe design of its air carrier crewing policy - FAA inappropriately generalized from the entire universe of unregulated "all humans" to the unique and super-select subset of current and active, highly regulated, and frequently tested airline pilots for its "justification".²⁷

²⁴ Questions and Answers accompanying the formal press release (FAA-59-#100, Dec. 5, 1959) announcing promulgation of the rule.

²⁵ Orlady, H., ALPA Views on Pilot Selection, Monitoring and the Criteria for Release from Duties Involving Flying, Presented at the Flight Safety Foundation International Air Safety Seminar, Madrid Spain, November 17, 1966

Confirmed in a later, peer reviewed study: Bulcy, L.E., Incidence, Causes and Results of Airline Pilot Incapacitation While on Duty, Aerospace Medicine, January 1969, 40(1):64-70

²⁶ Testimony of Quentin Taylor, Deputy FAA Administrator during hearings on Age Discrimination Against Airline Pilots before the Select Committee on Aging, House of Representatives, 96th Cong., 1st Sess., March 21, 1979. (At 53).

²⁷ Questions and Answers accompanying the formal press release (FAA-59-#100, Dec. 5, 1959) announcing promulgation of the rule.

The general knowledge of what happens to all humans as they grow older has been applied to a specific group of humans --- air carrier pilots. From the general knowledge of the processes of aging it is apparent that the functions which make up the skills required of airline pilots begin to deteriorate well before the age of 60.

At no time and in no forum, however, has the FAA proffered any credible evidence to even suggest that *even the FAA, itself* - actually *believed* that "what happens to all humans" or that its alleged "functional declines" applied to fully certified and currently active air carrier pilots of any age, or would adversely affected safety by any means.²⁸ Instead, the agency has repeatedly rejected those views by asserting the opposite.

FAA does not actually believe that age compromises the *currently active* air carrier pilot's functional abilities.

In 1961 - the year the age 60 rule became effective - the National Institutes of Health (NIH) funded a long-term study of "normal human aging" with airline pilots as the primary study population.²⁹ Approving that selection just six years later, FAA declared in a statement to both the Government Accounting Office (GAO) and House Government Operations Committee that:³⁰

[The NIH funded study] selected pilots because of the special advantages they offer. Being a highly select group they are more free of serious pathology

²⁸ There is no question but that as individuals, including individual pilots, age, their abilities decline. And if this decline is both sufficient and undetected, increased risk of accident would result. The relevant question, then, is not the existence or measure of decline, *per se*, but whether mechanisms are in place that detect and disqualify the individual airline pilot before his or her risk of accident increases. A statistically valid "up" tail on the high-age end of a possible U-shaped, age-risk relationship - *inexplicable on other grounds* - would suggest not. The FAA's failure to legitimately produce such a showing during four decades of controversy and effort, together with its repeated efforts to *falsely* demonstrate such a result demonstrate conclusively that detection and disqualification are already at work - whether by design or otherwise, or are not needed.

²⁹ Study of Physiologic and Psychologic Aging in Pilots, NIH Grant No. HD 00518 performed by the Lovelace Foundation for Medical Education and Research, Albuquerque, NM. (1960-1969)

³⁰ Better Management Needed of Medical Research on Aging, House Report No. 2080, Committee on Government Operations, 89th Congress, 2d. Sess., September 26, 1966 at 19.

than a sample of the general population of similar age. ... [HEW] supported the Lovelace effort despite, not because of the use of pilots, as they recognize the advantages inherent in this group of humans.

Moreover, for decades the FAA published identical conclusions based on its own research. From a series of annual reviews of pilot medical disqualifications beginning for the year 1973 and continuing through at least 1988, FAA declared repeatedly:³¹

Observation of the airline pilot group probably come closest to a true reflection of prevalence of disqualifying disease as is possible to observe. *Prescreening by airline companies before employment and FAA requirements for issuance of a first-class medical certificate result in this group being essentially purged of disease prevalence that contributes to higher [medical disqualification] rates for other non-pilot groups.* [Emphasis added.]

A statistical analysis of age vs risk of aircraft accident commissioned by the FAA in 1990, completed in 1993, found no suggestion of an increase in risk of aircraft accident with age for any pilot group, explaining that the FAA's certification processes could well be responsible:³²

[T]he data for all the various age groups of pilots were remarkably consistent in showing a modest decrease in accident rate with age. ... *It was as easy to conclude that the FAA's system improved the composition of the groups over time as it was to conclude that pilot's performance improved with age.* [Emphasis added]

Alternatively, FAA claims - again, with neither independent support nor reference to any relevant standard³³ - that the subtle decline in cognitive function with age robs the older pilot of ability. But FAA separately admits that this is not true for all active air carrier pilots - i.e., those that have survived the Darwinian selection processes referenced above - perhaps not even most air carrier pilots. Instead, FAA asserts that the decline is

³¹ Downey, L.E., Dark, S.J., Medically Disqualified Airline Pilots in Calendar Year 1987 and 1988, FAA Office of Aviation Medicine, AM-90-5, June 1990, at 2.

³² Kay, E.J., *et al.*, Age 60 Project, Consolidated Database Experiments, Final Report, Hilton Systems Technical Report 8025-3C(R2): CAMI Contract No. DTFA-02-90-90125, March 1993. At 6-2.

³³ Indeed, FAA has *never* defined a standard - any standard - that it would consider as justification for a change in the rule. See Footnote 57 and associated text.

impossible adequately to diagnose or predict, thus those pilots who could be continued in flight status safely are not distinguishable from those who could not. But here, too, the agency's Federal Air Surgeon has rejected this position in prior congressional testimony.³⁴

Mr. Pepper [Chairman, House Select Committee on Aging]: ... Is it any more impossible to detect a physical incapacity or inability in older people than in younger people?

Dr. Reighard [Federal Air Surgeon]: *No, the precision in medicine is the same regardless of age.* [Emphasis added.]

Furthermore, FAA routinely assesses cognitive impairment that results from drug and alcohol addiction as well as physical trauma for pilots under age 60 in both the denial and award of exemptions from its published medical certification standards.³⁵ In a 1989 statement to the Government Accounting Office, FAA admitted that it had - since the early 1970s - *granted* exemptions and "special issuance" waivers for, among other conditions, alcoholism and drug dependency, psychotic disorders, epilepsy, stroke, convulsive reactions, schizophrenia, paranoid states, psychoses, and disturbance of consciousness. In 1994, FAA *denied* medical certification to world-renowned aerial demonstration and test pilot "Bob" Hoover. Appealing an adverse decision by a NTSB administrative law judge, FAA prevailed relying almost exclusively on the results of cognitive testing administered by the FAA's designated experts.³⁶

Further, FAA, itself, funded a comprehensive and definitive, 4-part study in 1993 rebutting the notion that cognitive decline could not be assessed either in the laboratory

³⁴ Testimony of Dr. Homer Reighard, Federal Air Surgeon during hearings on Age Discrimination Against Airline Pilots before the Select Committee on Aging, House of Representatives, 96th Cong., 1st Sess., March 21, 1979. At 51.

³⁵ GAO Fact Sheet, Aviation Safety: Information on FAA's Age 60 Rule for Pilots, GAO/RCED-90-45FS, November 1989. At 15, 16.

³⁶ NTSB Order No. EA-4094, Hinson (Administrator, FAA) v. Hoover, Docket SE-13417, February 18, 1994.

or flight environment.³⁷ The FAA's declared object of this massive, multi-year Age 60 Project was the design and validation of cognitive testing protocols specifically intended to assess the age 60 rule for air carrier pilots.³⁸

The long-term aim of this research is to increase understanding about relationships among pilot age, experience, and performance. This information is critical to making informed decisions about the Age 60 Rule.

The statement of work accompanying the awarded contract was more explicit, stating:³⁹

The purpose of this procurement is to renew research efforts on aging and pilot performance, addressing the issues related to the mandatory prohibition ... of individuals from serving as flight crew members after the age of 60 (the "Age 60 Rule"). *Specifically, this project is intended to ... examine new technologies or batteries that would allow alternatives to the rule.*

(Emphasis added.)

The project was funded, managed, and supervised by FAA, with the flight performance portion conducted in a FAA owned and operated, air carrier type simulator.⁴⁰ Here, the investigators found - and reported - statistically significant correlations in a three-way comparison between pilot age and performance on three pilot

³⁷ Age 60 Project, CAMI Contract DTFA-02-90-90125 awarded to Hilton Systems, Inc. and Lehigh University, 1990.

³⁸ Hyland, D.T., Kay, E.J., Deimler, J.D., Age 60 Project Experimental Evaluation of Pilot Performance, January 1993, CAMI Contract DTFA-02-90-90125. At 1-2, repeated at 5-1.

³⁹ Statement of Work: Pilot Data Consolidation Effort: Studies on Mandatory Retirement Age for Pilots, Age 60 Project, FAA/CAMI Contract No. DTFA-02-90-90125. At 1.

⁴⁰ In a 1982 rulemaking, FAA approved high definition simulators with computer-generator imaging (CGI) such as the one used in this study "to totally replace the airplane" for all training, checking, and certification of flight crewmembers in Part 121 operations for enhanced safety. And further:

In developing the plan, the FAA gave full consideration to section 601(b) of the Federal Aviation Act of 1958, which states that the "Administrator shall give full consideration to the duty resting upon air carriers to perform their services with the highest possible degree of safety in the public interest. . . ."

Advanced Simulation. Final Rule. 45 Fed.Reg. 44176 *et seq.* Quotations at 44180 and 44183.

related neurocognitive test batteries⁴¹ and three increasingly difficult, air carrier type flight scenarios conducted in the FAA's high definition simulator.⁴² The final report stated:

Pilot age was significantly correlated with simulator performance in the experienced pilot subgroup. Older pilots were given lower subjective ratings on all three types of maneuvers. [At p. 4-7.]

Pilot age was also significantly correlated with performance on the predictor tests. [At p. 4-9]

These results suggest that COGSCREEN does have potential to discriminate the simulator performance of experienced B727 pilots, particularly when pilots are required to perform under unusual, high workload, emergency conditions. [At 5-2, 5-3.]

Considering the significant correlations between pilot age and simulator performance measure, between pilot age and the predictor tests and between predictor tests and the simulator that emerged in this study, an interesting pattern of inter-correlations appears. [At p. 4-9.]

As, perhaps, an unintended consequence, the ubiquitous flight simulator championed for decades as the best assessment tool for the older pilot⁴³ was itself - independent of the

⁴¹ The three test batteries were COGSCREEN, WOMBAT, and Flitescript. Age 60 Project Experimental Evaluation of Pilot Performance, at 3-6. Of the three, COGSCREEN was found to be the most predictive.

⁴² *Id.*, at 3-2. Three increasing difficult "flight" scenarios were constructed so that pilot proficiency could be tested under a range of flying conditions, in recognition of the need to test pilot performance under stress and in novel situations.

⁴³ Examples are far too numerous to cite here, but in addition to the Irish IFALPA, Harper-Kidera, Lane, and Chapman studies discussed at Footnotes 53-57, note:

Report of the Committee on Pilot Ageing [sic] and Allied Problems, 25th Annual Meeting of the Aero Medical Association, March 30, 1954. This committee was formed in response to an unsolicited recommendation contained in The Airport and its Neighbors, Report of the President's Airport Commission, Washington, D.C., May, 1952 (at 60). One of the committee's recommendations - in 1954 - was that

The Committee has expressed great interest in the possibility of using the Dehmel Flight Simulator as a possible method of checking the abilities of pilots in the older age range. ... These electronic devices are designed so that any flight problem can be simulated under very realistic conditions. These trainers reproduce the exact cockpit instrumentation and include motion and sound effects. It is obvious that any procedures which can be developed to appraise pilot ability on a

aging context - validated against the most modern, most definitive, and most comprehensive cognitive testing tools available.

FAA gives every appearance of wanting these results to disappear, however. When the agency held hearings on the 4-part Age 60 Project, the agency ignored the test battery/simulator results - the conceptually and contractually intended result of this massive study - in favor of a public review of the associated, preliminary, and narrow in scope Consolidated Database Experiments.⁴⁴ In noticing these public hearings, the FAA stated:⁴⁵

The FAA is considering whether to initiate rulemaking on the section of the Federal Aviation Regulations commonly referred to as the Age 60 Rule. Before making this decision, the FAA invites comments on various aspects of the report entitled "Age 60 Project, Consolidated Database Experiments, Final Report," dated March 1993, and the issues addressed in this notice.

FAA made no reference to the favorable - but clearly unintended - simulator/test battery study or its results.

more objective basis ... will contribute to flight safety and to a more precise appraisal of changes involved in the ageing [sic] process. [At p. 3.]

Proper, R., Research Planning Study of Aging Criteria. Final Report, The Lovelace Foundation for Medical Education and Research, FAA Project No. FA-904, Albuquerque, NM, July 31, 1961. Concurrent with the preparation and promulgation of its age 60 rule, FAA initiated a project to develop a "Physiologic Profile Aging Ratio (PAR)." The declared objective was to perfect a tool for individualizing pilot assessment as a replacement for its admittedly arbitrary age 60 cut-off. As a preliminary step, FAA commissioned the Lovelace Foundation (then performing the initial Mercury astronaut physiologic assessments) to evaluate/recommend a possible protocol. One of the resulting Lovelace recommendations - in 1961 - was:

Using its own research and aviation facilities, [FAA] should begin a program to perfect a quantitative method of evaluating flight simulator performance in highly skilled pilots to serve as a psycho-physiological instrument for validating the significance of a pure medical index ... as a true index of deteriorating performance capabilities with advancing age. [At 40.]

⁴⁴ Kay, E.J., *et al*, Age 60 Project, Consolidated Database Experiments. Final Report, Hilton Systems Technical Report 8025-3C(R2); CAMI Contract No. DTFA-02-90-90125

⁴⁵ The Age 60 Rule, 58 Fed. Reg. 21336, April 20, 1993.

This deception-by-omission becomes clearer when it is recalled that the conceptual and contractual purposes of the 4-part Age 60 Project were the selection and validation of the cognitive testing protocol produced.⁴⁶

This report [Age 60 Project: Experimental Evaluation of Pilot Performance] describes the third major task of the Age 60 Rule Study: the development of a methodology to quantitatively, objectively, and comprehensively assess an individual pilot's performance and the preliminary examination of the relationship between aging and pilot performance.

The Consolidated Database Experiments, on the other hand, were but a preliminary part of the overall Age 60 Project. Moreover, the Statement of Work governing the project declared, explicitly, that the Consolidated Database Experiments could not be used to definitively assess the age 60 rule because of data deficiencies, but would be used, instead, to aid in the development of the cognitive and performance testing portion of the project.⁴⁷

A consolidation of existing data sources could support analysis of the specific issue of the age 60 performance threshold. ... It should be noted that this study is not intended to finally establish causal relationships between age and accident rates. The quality of the data will not support such an investigation. ... A further application of the consolidated data would be to serve as the groundwork for the development of a methodology for assessing pilot performance based on factors other than (or in addition to) age. ...

Nevertheless - this was the portion of the Age 60 Project accorded a public hearing - and later found inadequate for supporting change to the rule.

Suffice it to say at this point that the FAA has never proffered any credible evidence to even suggest that the agency, itself, believes that age compromises the *fully certified and currently active* air carrier pilot's functional abilities, or increases his or her propensity for accident. And, as it did here, FAA has, when and where it could, suppressed, hidden, or buried evidence to the contrary.

⁴⁶ Age 60 Project Experimental Evaluation of Pilot Performance, at 1-1, 1-2.

⁴⁷ Statement of Work, Age 60 Project, FAA/CAMI Contract No. DTFA-02-90-90125. At 2.

FAA does not actually believe that the age 60 rule enhances - or is even related to - safety in aviation.

With respect to the agency's primary early justification, in-flight incapacitation, a 1978 study by the FAA's Protection and Survival Laboratory (CAMI), identified 18 pilot incapacitations (including one death) for the years 1971-75.⁴⁸ None resulted in either incident or accident.

A 1991 report examining the universe of all Part 121 air carrier accidents involving passenger fatalities for the 20 years 1970-1989 found none attributable to pilot incapacitation.⁴⁹ Of the 20 accidents that occurred during the 1980s, four are noteworthy in this context. In two accidents,⁵⁰ the NTSB found, as a first instance, crew inexperience as either causative or contributing factors in airline accidents. Following the 1987 Denver crash, the NTSB criticized the airline for allowing two inexperienced pilots to fly together, and recommended that the FAA prohibit such practice by regulation. FAA declined, issuing only a "recommendation" to that effect.⁵¹ In the other two cases,⁵² 59-

⁴⁸ Pollard, D.W., Survey of Air Carrier Inflight Illnesses: 1971-1975, Memorandum Report No. AAC-119-78-10(S), Protection and Survival Laboratory, FAA, CAMI, July 28, 1978

⁴⁹ Bruggink, G.M., An American Tableau: The Changing Accident Experience, Flight Safety Digest, The Flight Safety Foundation, January 1991. Reprinted as U.S. Aviation Accidents and Deregulation, Airline Pilot (Journal of the Air Line Pilots Association), March 1991, pp. 20-24.

To focus only on public - consumer - risk, the author excluded 11 "industrial" type accidents from his analysis - most involving ground crews working near the aircraft in the terminal areas.

⁵⁰ Air Florida B-737 stalled into the Potomac River after takeoff from Washington National Airport, Jan. 13, 1982.

Continental Airlines DC-9 stalled after takeoff from Denver's Stapleton Field, Nov. 15, 1987.

⁵¹ Testimony of John Kern, Acting Associate Administrator for Regulation and Enforcement, FAA in Hearings on Pilot Supply and Training, Subcommittee on Aviation, Committee on Commerce, Science, and Transportation, U.S. Senate, 101st Cong. 1st Sess., August 3, 1989 (S.Hrg. 101-307), at 13.

⁵² United Airlines B-747 climbing out from Honolulu had a cargo door blow off. Returned to Honolulu and landed with minimum loss of life. February 24, 1989.

year old captains - one on his last flight before mandatory retirement at age 60 - turned certain disaster during unimaginably "new and novel circumstances" into unprecedented miracles. When confronted with these examples of the value of maturity and experience, FAA dismisses them as merely "anecdotal." In these "dismissals," FAA refuses to recognize that these four examples (both pairs) are selected with a common screen from the entire universe of passenger impacted air carrier accidents during a full 20-year period. Whatever their merits or demerits, these examples are *not* "anecdotal."

A joint effort between the medical and flight training departments at United Airlines, in conjunction with the pilot's union (ALPA) Flight Safety Committee, developed operational procedures for detecting and managing both obvious and subtle in-flight incapacitations.⁵³ Central to their findings and recommendations were 1) training in the detection of the subtly incapacitated pilot, then procedures for controlling - immobilizing - the incapacitated pilot, and 2) the need for a "manual lock" shoulder harnesses at the pilot stations.⁵⁴ FAA has incorporated neither of these two recommendations into its regulations - even though both were later recognized and endorsed by a Presidential task force examining pilot crewing in newer generation aircraft.⁵⁵

A 1966 study by the Irish Air Line Pilots' Association and Aer Lingus examined risk of accident resulting from pilot incapacitation in conjunction with the elimination of the third crewmember (flight engineer) on the new (and FAA certified) BAC 1-11 aircraft. After extensive testing - both in the simulator and in actual line flights

United Airlines DC-10 catastrophic engine failure with loss of all flight controls. Landed with minimum loss of life at Sioux City, SD. July 19, 1989.

⁵³ Harper, C.R., *et al*, *Study of Simulated Airline Pilot Incapacitation: Phase I - Obvious and Maximal Loss of Function*, *Aerospace Medicine*, October 1970, 41(10):1139-1142

Harper, C.R., *et al*, *Study of Simulated Airline Pilot Incapacitation: Phase II. Subtle or Partial Loss of Function*, *Aerospace Medicine*, September 1971, 42(9):946-948

⁵⁴ United developed a complete training package including an instructor's manual and video presentation, marketing it worldwide - even to FAA.

⁵⁵ *Report of the President's Task Force on Crew Complement*, July 2, 1981. At 55, 57

throughout Europe - the investigators concluded that when both pilots are fully qualified.⁵⁶

The total incapacitation of one pilot in the operation which was examined does not constitute an emergency condition of any greater magnitude than the other emergencies which the aircraft and its systems are designed to control. In a word, the 2-pilot crew complement in the operation is fail-safe.

Two additional studies of international air carrier operations⁵⁷ examined cockpit crews and their "failures" (i.e., incapacitation) as if the crews were a part of "the aircraft and its systems." Noting that "acceptable" risk levels had never been determined either for otherwise uneventful pilot incapacitations, or those resulting in accident or incident, these investigators compared empirically derived data from both operational (pilot) surveys and simulator tests against the aircraft certification criteria for comparably critical systems in air carrier aircraft. Both authors found that death and total disability were rare, with the greater risk of incapacitation gastrointestinal and of short duration. They further found - independently and a decade apart - that both U.S. and British design standards for the most critical of aircraft systems were 3-10 times more stringent than they had found for risk of accident resulting from pilot incapacitation. Indeed, Chapman found "pilot" failure rates for simple incapacitation at 1 in 20.8 million flight hours, with accident resulting therefrom at 1 in 8.3 billion flight hours - or 1 in 400 years at the then world-wide activity levels.⁵⁸ Chapman further reports that these results are 10 times "better" than that required by comparably critical aircraft mechanical systems. And again, there is no evidence that FAA has even *considered*, much less considered and

⁵⁶ Irish Air Line Pilots' Association, Report of the IFALPA Study of Fail - Safety in BAC 1-11 Crew Complement, presented as a paper to The Industrial and PEL/MED Study Group Meeting, Dublin, 5th, 6th, and 7th Dec. 1966. Paragraph 5-2.

⁵⁷ Lane, J.C., *Risk of In-flight Incapacitation of Airline Pilots*, Aerospace Medicine, December 1971, 42(12):1319-1321

Chapman, J.C., *The Consequences of In-Flight Incapacitation in Civil Aviation*, Avial. Space & Environ. Med., June 1984, 55(6):497-500

⁵⁸ Chapman, at 499.

rejected, either the results derived, or that the "standards" chosen (aircraft design/certification criteria) were unreasonable - even in concept.⁵⁹

Indeed, FAA has never identified **any** standard against which it would consider pilot health or ability to perform or risk of accident in its deliberations regarding the age 60 rule.

The international aviation community does not believe a maximum age limit for pilots enhances - or is even relevant to - safety in aviation.

In its introduction to the issue, the Senate's Appropriations Committee criticized the FAA on its refusal to consider change in the age 60 rule as "moving against the international aviation community" (See Footnote 15 and associated text, and S.Rep. 106-55, p. 79.) The criticism was well founded. ICAO member States hesitated for more than a decade before adopting an even less restrictive version of the rule. Moreover, this less restrictive rule was never fully implemented among the ICAO member States, and soon came under challenge. And today, the international community is dismissing - not "rejecting," simply ignoring - the rule, en masse.

Despite the United States' dominance in the international aviation arena in the early decades following W.W.II, the International Civil Aviation Organization (ICAO) member States did not agree on a limited version of an age 60 rule until 1972 - 12 years after the FAA's action. Even then, the rule's effectivity was delayed until 1978 - 18 years after the U.S. "lead." Moreover, this more limited ICAO rule restricts only captains, imposes no age restriction on co-pilots, and applies only to international operations.⁶⁰ As

⁵⁹ It is not plausible to consider this "failure" inadvertent. If a definite "standard" is ever articulated, then challengers of the rule will have a "target" toward which to strive - and against which the courts would measure their success. With no such standard articulated, the FAA remains free to rely only on its own expertise - and judicial deference - to guarantee virtual immunity from independent judgment.

⁶⁰ Annex 1, Section 2.1.10.1 (Personnel Licensing), International Standards and Recommended Practices, Convention on International Civil Aviation.

sovereign nations, ICAO member States may legitimately adopt for their own national carriers and pilots any age limit they choose - or no age limit. Further, although phrased as such, the international "age 60 rule" is not an inflexible maximum age limit as is the U.S. Rule.⁶¹ Again, as sovereigns, member States may choose to enforce - or ignore - the ICAO rule upon foreign crews and carriers operating within their national airspace, or any other rule equal to or more liberal than the ICAO standard.

Moreover, even the FAA did not, itself, begin to enforce the ICAO rule against foreign carriers and their captains operating into U.S. airports until 1990 - 12 years after it could have begun doing so - and thirty years after imposing its more restrictive rule on U.S. pilots.⁶² Even then, FAA only acquiesced after its 18 year lapse had been discovered by the National Transportation Safety Board (NTSB) and the FAA urged to begin its enforcement against the foreign carriers.⁶³ In its initial (1990) effort to respond to the NTSB recommendation, FAA discovered that it could not because ICAO had never required disclosure of age information on any pilot license or certificate. Thus FAA was forced first to request that ICAO adopt such a rule.⁶⁴ It was not until 1992 - 14 years after it could have begun doing so - that FAA issued a handbook bulletin to its inspectors

A contracting State, having issued pilot licenses, shall not permit the holders thereof to act as pilot-in-command of an aircraft engaged in . . . international air services . . . for remuneration or hire if the license holders have attained their 60th birthday.

⁶¹ Should a member State establish for itself a "less restrictive" standard than that adopted by ICAO, that State is "required" to file a "Difference" with ICAO. The purpose of this filing is to give notice of their relaxed rules to other States *that might care*. However, since the ICAO "age 60" standard is, itself, so widely disregarded, the filing of these Differences is similarly disregarded by many, if not most, member States.

⁶² Had it truly considered age-60 a significant safety issue, FAA could have begun enforcing the ICAO age 60 rule against foreign carriers and their captains in 1978 - with 6 years lead-time.

⁶³ National Transportation Safety Board. Safety Recommendations A-90-51 thru -53, to James B. Busey, FAA Administrator, Apr. 24, 1990.

⁶⁴ DOT submission to the Interagency Group on International Aviation, Annex 1 (Personnel Licensing) - Proposed Amendment of Annex 1 re Date of Birth on Personnel Licenses. October 16, 1990.

announcing that, starting in mid-January 1993, foreign carriers and their captains would now be required to comply with the ICAO age 60 rule.⁶⁵ But even then, the FAA's conduct belied its domestic position that the rule was a compelling safety issue. While the FAA continued its inflexible enforcement of the U.S. age 60 rule on U.S. air carriers, it granted blanket waivers to the captains of at least three foreign airlines for up to three additional years.⁶⁶ Moreover, these waivers were granted not to insure safety, but rather in response to pleas by the foreign carriers for relief in crew training/scheduling and for economic consideration.⁶⁷

⁶⁵ Pilot-in-Command Age Requirement for Part 129 Operators, Order 8400.10, Appendix 3, HBAAT 92-06, July 14, 1992.

See also Surveillance of Foreign Air Carriers, HBAW 92-16/HBAAT 92-07, July 14, 1992

⁶⁶ Icelandair (2 years extension total), Corse-Air International, and Cargolux.

⁶⁷ See, e.g., letter from Lord Day & Lord, Barrett Smith, counsel for Icelandair to FAA dated Nov. 20, 1992:

Application of the Age 60 Rule to Icelandair prior to the end of the Summer 1993 season would have a significant and substantial negative effect on the Company's U.S. operations. ... Accordingly, the Company would suffer undue hardship in terms of disruption to its crew assignment patterns, if it were required to comply with FAA's new age policy before the end of the upcoming 1993 Summer Season.

In its September 15, 1993 request for further extension, Icelandair's counsel again explained:

Icelandair cannot simply reassign PICs to its European or domestic routes. ... [Each such] transfer ... would require Icelandair to schedule two training and transition periods ... for his replacement. ... In addition to difficulties in scheduling training, Icelandair has been unable, despite its best efforts, to conclude successful negotiations with its pilot union toward resolving the myriad issues resulting from FAA's new PIC age policy.

Note that in both letters, counsel pleads only operational and scheduling convenience, and economic burdens, with HBAAT 92-06 and -07 identified not as *new enforcement* of an existing FAA policy, but as "new age policy." In its 1992 letter to FAA, Lord Day had stated:

[T]he Republic of Iceland ("Iceland") has a long-standing formal difference with the International Civil Aviation Organization ("ICAO") concerning pilot age. ... Icelandair has long operated its U.S. services using Pilots-in-Command between sixty and sixty-two years of age.

The Cargolux request for exemptions dated September 8, 1992 also pleads cost, surprise, and inconvenience:

To the extent that FAA granted these exemptions for these carriers' scheduling, operational, and economic interests and not for safety, it likely did so illegally.⁶⁸

Observing in 1989 that the ICAO rule had been inconsistently implemented, Chile asked at the annual ICAO Assembly that the rule to be reexamined for either change or elimination.⁶⁹ In response, the Assembly assigned "ANC Task No. MED-7101: Upper age limit for flight crew members" to its Air Navigation Commission for review and

Our long-term planning for crew training and transition training for our new B747-400F aircraft, did not encompass the possibility of this age requirement regulation coming into effect.

⁶⁸ There is no question but that "safety" is among the FAA's highest priorities in its regulatory activities. 49 U.S.C. § 40101(d)(1) requires that the Secretary of Transportation consider "assigning and maintaining safety as the highest priority in air commerce."

But the same legislation also requires that the agency *protect the economic and competitive position of U.S. carriers operating in the international arena* by:

(d)(6): placing maximum reliance on competitive market forces and on actual and potential competition ... (B) [while] considering any material differences between interstate and foreign air transportation.

(d)(15): strengthening the competitive position of [domestic] air carriers to at least insure equality with foreign air carriers ...

With respect to balancing the rights and duties of domestic vs international carriers, the Secretary is additionally directed to:

(e): In formulating international air transportation policy, The Secretary ... shall develop a negotiating policy emphasizing the greatest degree of competition ... including the following:

(e)(1). strengthening the competitive position of [domestic] air carriers to ensure at least equality with foreign carriers ...

(e)(9): eliminating discrimination and unfair competitive practices faced by United States airlines in foreign air transportation including ... (C) unreasonable restrictions on operations.

Thus, the FAA's grant of exemptions to foreign carriers *solely for their economic benefits and scheduling efficiencies* (see letters of request discussed under Footnote 46, immediately above) while denying the same privileges to U.S. carriers *solely for safety considerations* was inconsistent with, thus contrary to, the agency's enabling legislation.

⁶⁹ A27-WP/80, P-30, August 15, 1989, Agenda Item 7 (Presented by Chile). This working paper states that the rule is unfounded and outdated, complains of the requirement to "ground" pilots at age 60 without justification, and asks that the rule be reexamined with the goal of deleting it as a Standard.

action.⁷⁰ Today (2003) the issue at ICAO remains unresolved, at least in part because of strong U.S./FAA opposition to change - including its 1991 presentation to the Commission of the false and misleading *appearance* of an increase in risk above age 60 derived from footnote comments in the rejected and discredited Golaszewski study.⁷¹ Ignoring the FAA's misinformation and intransigence, the United Kingdom unilaterally changed its rule in 1994 to age 65 for 2-pilot operations where the second pilot was fully qualified and under the age of 60.⁷² Similarly independent, the European Union's Joint Aviation Authority (JAA) representing some 25-27 member States adopted an essentially identical rule (JAR-FCL1), on 8 October 1996, to become effective 1 July 1999.

Today, an overwhelming majority of ICAO member States no longer considers the rule sufficiently relevant to deserve notice to the governing body.⁷³

⁷⁰ Action noted in AN-WP/6456, May 9, 1990, ANC Task No. MED-7101: Upper age limits for flight crew members. The paper noted that "Significantly, some States which initially implemented the provisions have since advised ICAO that they no longer apply the rule."

⁷¹ Air Navigation Commission Discussion Paper No. 1 Related to AN-WP/6538, 29 [Apr.] 1991. Re: ANC Task No. MED-7101. Upper age limits for flight crew members. At 1, A-1, and A-2.

The U.S. presentation consisted of bar charts representing statistical data from Golaszewski. These are the same charts illustrating same false and misleading *appearance* of an increase in risk at age 60 that the FAA had presented to the (U.S.) 7th Circuit Court of Appeals in Baker v FAA, 917 F.2d 318 (7th Cir., 1990)

⁷² See (UK) Aeronautical Information Circular 115/1994 (White 194) dated 20 October 1994.

⁷³ The breadth of the disinterest is striking.

- In 1990, an ICAO survey of member States (58 responding) indicated 36 States (62%) favored some age above 60 - with the majority of these (22) favoring age 65, and the next largest group (9) favoring either no limit or an unspecified age limit
- In 1994, the United Kingdom instituted an age 60/65 policy - *i.e.*, one pilot (captain or co-pilot) in a multi-pilot crew could continue to age 65.
- Another ICAO survey in 1995 (73 States responding) revealed that the number of states with no age limit had increased to 13, and 78% of the responding States (57) allowed pilots to fly beyond age 60 (some with conditions, age 65 the choice of most). (AN-WP/7089, 15/[Feb.]/96.)
- In 1996 (updated in year 2000), the "U.K. CAA" (British FAA equivalent) sought exemptions for captains of British registered carriers from those States to or over which their British carriers operated (government assisting industry in its 60/65 policy). Of 117

In 1995, the Industrial Relations Court of Australia held that employer imposed mandatory retirement for airline pilots at age 60 violated the country's age discrimination in employment statutes.⁷⁴ Unconstrained by the deference to administrative action imposed by American courts, the Australian court carefully examined the full range of justifications presented to it - and that FAA had relied upon for the past 40-plus years - rejecting each in turn.⁷⁵

Given the time and effort that has been expended in America examining the justification for the Age 60 rule, it is remarkable to say so; but it seems to me than none of the cited studies supports any conclusion about the relationship between the rule and safety.

Regarding the 1983 Golaszewski study, specifically, the Australian court observed:⁷⁶

responding States, 70% (82) granted blanket authority (some with restrictions). Of the remaining 25 States, some offered individual exemptions on application. Ten States (8%) responded that the request was "under consideration." (e-mail message, Neil Monks to Samuel Woolsey, 28 Jun., 2001.)

- Also in 1996, virtually the whole of Europe (through the JAA) adopted age 65 as a maximum age limit for one pilot (captain or co-pilot) - with the other qualified pilot under age 60 to become effective in 1999.
- In 1999 (after rising the age limit to 65 for captains), Israel's El Al airline management similarly sought exemptions (to age 65) from those member States to or over which El Al flew. Of 65 responding States, 73% (46) granted the exemptions to El Al's captains as requested, with 62% (39) granting blanket/unlimited permission. (Letter, Capt. Reuven Harel to Omri Talmon, 5th April, 2001 - updating Harel e-mail to Alan Serwer dtd. 15 Nov. 2000.)

Confirming the above level of disinterest, upwards of 70-80% of the ICAO member States no longer enforce "age 60" and the entire European community has adopted to its 60/65 rule. The most recent (June 2000) Supplement to Annex 1 (8th Ed.) Personnel Licensing, reveals that only 25 States had even bothered to file a formal Difference with respect to the ICAO (captains only) age 60 rule.

⁷⁴ Allman v. Australian Airlines Limited and Christie v. Qantas Airways Limited, Industrial Relations Court of Australia, No. NI. 879 of 1994, Wilcox CJ, 12 May 1995 (appearing at 60 IR 17).

[Affirmed] 68 IR 248, 14 June 1996

⁷⁵ *Id.*, at 57.

⁷⁶ *Id.*, at 59.

The Golaszewski study heavily influenced the OTA panel and is the foundation of Dr. Billings' present thinking.⁷⁷ It is deeply flawed. To start with, it seems to me surprising for a study to take all accidents, without making any attempt to classify them according to cause. ... [But] there is a more significant point. The numerator⁷⁸ Mr. Golaszewski used in calculating accident rates per 100,000 hours for pilots less than 60 years of age comprised hours flown in all types of operations, including the most safe (scheduled airline flights). The numerator [*sic*] he used in relation to over-60 pilots continued to include hours flown in the more risky types of operations, but none from the most safe (scheduled airline flights, which are 15 to 20 times more safe than general aviation operations). ... I find it surprising, when I take that point into account, that the increase in post-60 accident rate is as small as it is.

Dismissing Billings (one of the longest and strongest supporters of the rule outside the FAA) as a credible witness on the issue, the court further observed:⁷⁹

I have already noted Dr. Billings' sincerity. I found him a likeable, and generally impressive, person. But he has long been a staunch advocate for the Age 60 rule; to the point where it must be very difficult for him to give open-minded consideration to an alternative approach. I am not persuaded that he has been able to do this. In contrast, Dr. Zentner and Dr. Liddell [Australian experts] bring no intellectual baggage to the problem. The only baggage they

⁷⁷ Dr. Charles Billings, formerly of NASA Ames.

Regarding the "OTA panel" and Billings' relationship to it: In the mid-late 1980s, Dr. Billings was hired by Boeing Aircraft (and other aircraft manufacturers) as a defense witness when they were being sued under the (American) ADEA for their corporate age 60 retirement policies. (e.g., EEOC v Boeing, 843 F.2d 1213 (9th Cir., 1988)) In his defense expert capacity, Billings prepared a new set of graphs from the Golaszewski data that included and incorporated the heterogeneous and demographic flaws permeating that study. Boeing's political lobbyist secured a (congressional) request for the OTA memorandum report. Because of "prior knowledge," OTA staff preparing contacted Billings at NASA Ames for his Boeing material, but identified it as a NASA product in their study. Thus, the OTA memorandum (*not* a formal "OTA Report") is a real, modern day example of the classic Trojan Horse! (See Declaration of Karen H. Baker, Baker et al [no relation] and EEOC v. Delta Airlines, CV No. 89-0517-AWT, (D.C., C.D. CA), for Hearing Dec. 10, 1990, *id.* 26 Nov. 1990.)

⁷⁸ The court incorrectly identifies "hours flown" as a numerator value. This is incorrect. "Hours flown" are denominator values in all the statistical studies relating to the age 60 rule (usually in "per 100,000 hour" units) - except that of Booze (1977). See Footnote 93 and associated text.

⁷⁹ Allman v Australian Airlines Limited and Christie v. Qantas Airways Limited. At 77-78.

bear is Dr. Liddell's responsibility for aviation safety in Australia, a responsibility that would incline him towards caution rather than the reverse.

Four additional plaintiffs brought a parallel challenge to Qantas' mandatory policy through Australia's Human Rights and Equal Opportunity Commission. Their claims arose from Australia's obligations under the United Nations' International Labor Organization's Discrimination (Employment and Occupation) Convention of 1958 (ILO 111), ratified by Australia in 1973.⁸⁰ Relying primarily on the facts and analyses as reported in the Allman and Christie decisions, the Australian Human Rights Commission held:⁸¹

Excluding a person from employment on a prescribed ground, such as age, cannot be justified simply because the inherent requirements of the job could be satisfied by the imposition of the discriminatory rule. Consistent with the comments of the ILO Committee of Experts and the provisions of the Act to eliminate discrimination, the rule must also be necessary and proportionate to the aim it seeks to achieve. ...

Because the evidence that the discriminatory age criterion is not an effective predictor of risk and because of the evidence of alternatives that are as good or better predictors, the imposition of the age restriction is neither necessary nor appropriate. ... [Emphasis added.]

No segment of the aviation community, foreign or domestic - not even the FAA, itself - has proffered any credible evidence to support the proposition that either medical or safety concerns justify the age 60 rule.

THE FAA'S FLAWED STATISTICAL EFFORTS

As noted above, for its first 20 years, FAA justified and defended the age 60 rule with unsupported expressions of concern for pilot incapacitation and other decrements in, primarily, neurocognitive function. During this time, FAA made no real effort at formally assessing age related risk in any segment of aviation through statistical analysis.

⁸⁰ *Bone et al. v. Qantas Airlines Ltd.*, Human Rights and Equal Opportunity Commission, Notice Under Section 35 of the Human Rights and Equal Opportunity Commission Act 1986, Concerning Equal Opportunity in Employment.

⁸¹ *Id.* at 17.

FAA's first such effort, published in 1977, focussed exclusively on general aviation pilots - *An Epidemiological Investigation of Occupation Age, and Exposure in General Aviation Accident*.⁸² Prompted initially by concern for a disproportionately high risk observed among physicians, the study sought to determine the risks among several "civilian" occupations reported by general aviation - i.e., non-professional - pilots. To examine this risk, the author (Booze) screened the FAA's 1974 databases for only "general aviation" accidents - i.e., numerator data for the standard rate equation.⁸³ But for denominator values - i.e., "pilot count" expressed in 1000-pilot units - the author screened for "all" pilots medically certified during the year - including all airline pilots and all other professional pilots.⁸⁴

The inclusion of air carrier pilots - a sub-group even of the "professional" pilots - in this study's total pilot count - did not degrade the Booze study *as intended and executed*, however. This was because the air carrier and other professional pilots inappropriately included in the total pilot count were later excluded when the general aviation sub-groups (e.g., physicians, farmers, and housewives, etc.) were chosen by their "occupation" as entered in Block 10 of the medical certification application.

The presence of super-safe air carrier pilots subject to the age 60 rule will corrupt all results - in all studies - where their data is aggregated with that of less safe pilots to assess risk based on age, alone, as if they were a single, homogeneous unit, however.

A Congressionally mandated study produced in 1981 found neither medical nor operational support for the age 60 rule.

In 1978, the Aviation Subcommittee, House Committee on Public Works and Transportation reported out a Bill that would have forced the FAA to raise the retirement age for airline pilots to 63, and mandated a "study" to justify further liberalization of the

⁸² Booze, C.F., FAA Office of Aviation Medicine, AM-77-10, March 1977

⁸³ For this study - "risk" = "accident count" / "pilot count" (in 1000 pilot units).

⁸⁴ Booze, at 5.

rule. In floor debate, the age increase was deleted and responsibility for the "study" assigned to the National Institutes of Health.⁸⁵ NIH assigned responsibility to its National Institute on Aging (NIA) which, in turn, subcontracted to the National Academy of Science's Institute of Medicine (IOM) to actually perform the work. The resulting IOM report⁸⁶ (delivered in 1981) concluded that for either sudden incapacitation or general decline, "age 60 is not an age of special significance":

For significant events (such as cardiovascular events and stroke), age 60 does not mark the beginning of a special risk or a special increase in risk, although on average, risk increases with age. Subtle changes that may adversely affect pilot performance also increase with age. ... However, age 60 is not an age of special significance for these subtle changes either. [IOM Report, pp. 3-4.]

Particularly so for airline pilots because of the fail-safe nature of those operations:

Acute incapacitation of the pilot is not significant as a cause of airline accidents. No accidents were attributed to incapacitation during the period 1968 to 1977. Because the cockpit crew includes a co-pilot and a flight engineer who can take over the controls, most incapacitations, when they occur, do not cause accidents. [IOM report, p. 41.]

Even for general aviation pilots, risk with incapacitation was found to be minimal:

Incapacitation and impairment were identified as causes of a very small percentage of the general aviation accidents in 1978: 1.7 % of all accidents and 7.8 % of fatal accidents. [IOM report, p. 41.]

Moreover, general aviation risk data was not "readily applicable" to airline pilots:

[However], the data on incapacitation and impairment [in general aviation pilots] may not be readily applicable to airline pilots because general aviation pilots do not undergo as rigorous medical surveillance as do airline pilots. The selection, licensing, and performance testing of airline pilots also are more stringent and thus further weaken the predictive power of general aviation data. [IOM report, p. 41.]

⁸⁵ Pub.L. 96-171, 96th Cong. Dec. 29, 1979; 93 Stat. 1285

⁸⁶ Airline Pilot Age, Health and Performance: Scientific and Medical Considerations, Institute of Medicine, National Academy of Sciences, Washington, D.C., March 1981. (IOM study.)

But because of an uncertainty as to "the general effect [of age] on pilot performance," IOM recommended extensive additional research into both medical certification and pilot performance.⁸⁷

The NIH/NIA panel's recommendation that the rule be retained was based on data corrupted by the Age 60 Rule Effect - and contradicted in the IOM Report.

Following three public hearings and review of scores of written comments on the IOM Report, an 18-member panel of experts convened under the auspices of NIH and NIA reported its findings and conclusions as required by Pub. L. 96-171.⁸⁸ In this NIA Report, the 18-member NIH/NIA panel concluded, as had the IOM committee, that there is no convincing medical evidence to support age 60, or any other specific age, for mandatory pilot retirement" for air carrier pilots. [NIA Report at pp. 1, 2, and 10.]

But relying on material that the IOM panel had not included in its report,⁸⁹ the NIH/NIA panel "concluded" that risk of accident increased with pilots above age 60:

⁸⁷ One of the panel members (Dr. Richard Masters, noted cardiac specialist) challenged these additional recommendations rather eloquently (at p. 157):

I feel it necessary to express my concern with the apparent willingness of the committee to present a position which is unsubstantiated and has no justification in fact. ...

Accident statistics pertaining to scheduled U.S. air carrier operations in no way lead to the conclusion that an overhaul of the FAA medical standards is warranted. There is no evidence to indicate that the present standards, as currently applied are not effective. Inflight incapacitation incidents are uncommon, and have not led to aircraft accidents. Thus, the [existing standards have] not been proven deficient. ...

⁸⁸ Report of the National Institute on Aging Panel on the Experienced Pilots Study, Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Aging, Bethesda, MD, August 1981. (NIA Panel report.)

⁸⁹ Figure 2, p. 5 of the NIA Report with two risk profiles - high total time and recent flight times - depicted the false and misleading appearance of an increase in risk beginning precisely at age 60. (The IOM Report had included and referenced only Table 5 data.) For "High Total Experience," the NIH/NIA panel selected risk data for pilots with more than 2000 total flight hours from Table 5 (GA accidents by cumulative experience and age). For "High Recent Flight Experience" the panel selected risk data for pilots with more than 200 hours in the previous 6 months from Table 7 (GA accidents by recent experience and age).

The data of Booze ... indicate that general aviation pilots with high total and recent experience (those pilots whose experience most closely parallels that of professional pilots) have declining accident rates until the age of 60, after which those trends reverse. The rise in accident rates ... in the 60- to 69-year age group with recent high recent experience (over 200 hours/6 months) is striking. [NIA panel report, pp. 2, 4.]

and recommended that the rule be retained, but exemptions granted for the collection of the data necessary for an informed resolution of the controversy.⁹⁰ Not only did this observation contradict that of the IOM Report⁹¹ - without acknowledgement or explanation - but the data on which it was based (Booze's Tables 5 and 7) were corrupted by the Age 60 Rule Effect - the inclusion of air carrier pilots in its population count.

As noted above,⁹² when preparing his study, Booze had sampled only general aviation accidents, but included air carrier and other professional pilots by including all of the 758,243 medically certified U.S. pilots in his total population count.⁹³ Booze's Tables 5 and 7 - the source of data for the NIA Report's Figure 2 - provided data for "all" pilots in their denominator data - including air carrier pilots. Thus, their data are corrupted by the Age 60 Rule Effect because the most safe air carrier pilots - naturally congregating in the highest time brackets - were "screened out" at age 60 by the age 60

In both cases, the original Booze data was invalid because it was corrupted by the Age 60 Rule Effect - denominator values representing incompatibly heterogeneous pilot populations with the safest pilots - air carrier pilots - excluded above age 60 by the age 60 rule.

⁹⁰ The NIH/NIA panel explained the need for allowing pilots to fly past age 60 *and provided a detailed protocol for the process*. (NIA Report, pp. 22-25) FAA refused to grant the exemptions as suggested, however, commissioning the immediately rejected, discredited, and publication-refused 1983 Golaszewski flight time study, instead.

⁹¹ Relying only on the Table 5 data, the IOM panel had interpreted and reported the Booze data differently:

[W]hen only those general aviation pilots with more than 2,000 hours of cumulative flying experience are considered, the rates of accidents are highest in pilots under age 30. There is no consistent trend for accident rates among those experienced pilots in the age range 30-70. [IOM report at p. 34.]

⁹² See discussion beginning page 29.

⁹³ See Booze, p. 5 and note Total/Subtotal (*i.e.*, pilot count of 758,243), lower right-hand data block, Tables 5 and 7.

rule. For example, the population count of Booze's high *total* time pilots⁹⁴ dropped 80% when going from the 50-59 to the 60-69 age bracket (25,130 pilots ages 50-59 to 5316 pilots ages 60-69) - after remaining within 5% over the previous 3 brackets (26,660, 26,096, and 25,130 - ages 30-59).⁹⁵ Booze's high *recent* time pilots⁹⁶ - also depicted in Figure 2 and described as "striking" in the NIA Report - *lost 92% of its population* going from the 50-59 to the 60-69 age bracket (9,424 to 725 pilots). It was clearly this drastic decrease in pilot count (*i.e.*, the risk equation's decrease in *denominator* value) - the classic Age 60 Rule Effect - that caused the NIA Report's "striking" *appearance* of an increase in risk beginning precisely at age 60. This was pure data corruption that the NIH/NIA panel relied upon, not a change in the risk profile of any pilot group - certainly not the general aviation pilots tarred with it, or the air carrier pilots similarly tarred by inference.⁹⁷

⁹⁴ Taken from Booze's Table 5, pilots with 2001+ hours cumulative time - those "whose experience most closely parallels that of professional pilots."

⁹⁵ Since there is a normal attrition among pilots with age, it is not certain that *all* these departing pilots were forced out by the age 60 rule. However - considering that 1) air carrier pilots would almost certainly congregate in the "2001+ hours cumulative time" bracket, and 2) the stability of population count for the previous 30 years, the abrupt and dramatic departure of so many pilots precisely at age 60 suggests quite strongly that a large percentage of them *were* air carrier pilots forced out by the age 60 rule.

⁹⁶ Taken from Booze's Table 7, pilots with 201+ hours time in the most recent 6 months.

⁹⁷ The above analysis is accurate conceptually, but can not be confirmed analytically because Booze's data (for the single year 1974) is not available. However - comparable and relevant data covering a 20-year period beginning in 1976 (only 2 years after the Booze study) are available from two official FAA sources:

1 Annual Report on the Effect of Airline Deregulation Act on the Level of Air Safety, Report of the Secty. of Transportation to the U.S. Congress pursuant to Sect. 107 of the Airline Deregulation Act of 1978 (P.L. 95-504), Washington, DC, June 1990. *And*,

2 Tables 9-4, 9-8, 9-9, and 9-10 from the online version of the FAA's Statistical Handbook (covering 1987-1996) found at: <http://www.faa.gov/handbook96/toc96.htm>.

Data from the on-line Handbook - like that of the Deregulation Report - appear here in three formats: for aircraft flight hour, aircraft miles flown, and per flight segment. These data make excellent validation checks (proxies) for age 60 investigations because: 1) One and only one captain (pilot in command) will be aboard for any aircraft flight hour/segment. 2) If any pilot is approaching age 60, it would most likely be the captain. 3) The captain is

While this was, admittedly, a first instance of the use of this kind of argument in the age 60 rule debate, the willingness of the NIH/NIA panel to accept such patently invalid results (even labeling them "striking") raises the questions of why? Or how?

The one plausible explanation to surface was provided by the next succeeding Director of the NIA, Dr. T. Franklin Williams. In a deposition for the EEOC in support of its age discrimination suit against several aircraft manufacturers who were relying on the age 60 rule as an "automatic" BFOQ (Bona Fide Occupational Qualification) for their pilot retirement policies, Dr. Williams felt that the NIH/NIA panel had been "conned" by the FAA in 1981.⁹⁸

The NIA Report represented a compromise intended to produce incremental change by the FAA. At the time the NIA Report was issued, many of its members, if not all, believed the FAA had already informally agreed to institute a program of post-60 piloting as recommended.

Thus, NIA withdrew its earlier NIA Report recommendation to retain the rule in 1985 not because the FAA had refused to follow through on it, but because NIA felt that - in its refusal - the FAA had reneged on its promise to work to gather reliable data..

Even though corrupted by the Age 60 Rule Effect as were Tables 5 and 7 of the Booze study, and widely recognized as such, FAA disseminated the 1983 Golaszewski

responsible for the flight (and any accident resulting). And 4) only the captain (in all Part 121 flights and most Part 135 flights) is required by regulation to possess an ATP and 1st class medical certificate (the criteria most frequently used to identify air carrier pilots in age 60 rule analyses.

This Handbook data reveals that Part 121 flying contributes only 1% of the accident count but 30% of the flight hours to "all" civilian (non-military) U.S. flight operations. And further, scheduled Part 135 flying (that *actually* is most like Part 121 flying) is 3 *times* more risky, air taxi flying 17 *times* more risky, and the composite "all" pilots flights (i.e., the Booze data reproduced and relied upon by the NIH/NIA panel) are 24 *times* more risky than air carrier flying.

With these disparities thus quantified, the Australian court's observation in Allman and Christie ("I find it surprising, when I take that point into account, that the increase in post-60 accident rate is as small as it is") is, in fact, understated. (See Footnote 76.)

⁹⁸ Declaration of T. Franklin Williams, M.D. for Hearing, October 22, 1990 in EEOC v Lockheed Corp., CV 90-5253 TJH, (DC CD, CA). At 5-6.

Flight Time Study to a world-wide audience as "the best scientific evidence available" that risk increases after age 60.

In 1982, the year following release of the NIA Report, FAA issued an Advance Notice of Proposed Rulemaking (ANPRM - *not* a NPRM) suggesting that it might at some time consider granting the exemptions as recommended in the NIA Report.⁹⁹ FAA also contracted for Golaszewski's 1983 Flight Time Study to - apparently - replicate the flawed but dramatic Figure 2 of the NIA Report through similarly corrupted data.¹⁰⁰ After the Golaszewski study was delivered in 1983, FAA withdrew its ANPRM¹⁰¹ and began a decades-long, world-wide promotion of the Flight Time Study as "the best scientific evidence" supporting the age 60 rule. FAA started this now 20-plus year promotion of Golaszewski's false and misleading *appearance* of an increase in risk above age 60 despite the fact that the study had been rejected and publication refused *at the time of delivery in 1983 by the FAA, itself*. Moreover, this rejection had been initiated and executed - and later confirmed - by the office and officer within FAA that had managed the study, and provided it with technical support, because of¹⁰²

major data deficiencies [and] other problems with the study [that had] been discussed by experts in the aviation field as well as within [the FAA].

The "data deficiencies and other problems" were the same Age 60 Rule Effect corruption of numerator and denominator data that corrupted Booze's Tables 5 and 7. Repetitive explanations of the fundamental flaws embedded in this study - from a broad array of knowledgeable and informed commentators - appear in Footnotes 11-14. When directed via an FAA contract to examine the Golaszewski study, specifically, the author of the

⁹⁹ ANPRM, Crewmembers: Limitations on Use of Services, 47 Fed. Reg. 29782 (Jul. 8, 1982).

¹⁰⁰ Golaszewski, R.S., The Influence of Total Flight Time, Recent Flight Time and Age on Pilot Accident Rates, Acumenics Research and Technology, Inc., Bethesda, Maryland, Order No. DTRS57-83-P-80750, June 30, 1983.

¹⁰¹ Withdrawal of ANPRM, Flight Crewmembers: Limitations on Use of Services, 49 Fed. Reg. 14692 (Apr. 22, 1984)

¹⁰² See Footnote 12 and related text, p. 5.

Hilton Systems Consolidated Database Experiments (Kay, 1993) added his to the flood of other criticisms:

Combining pilot classes as done in the Golaszewski analysis, was inappropriate because it produced misleading accident rates. ... The accident rate profile of a heterogeneous group was influenced by the proportion of Class I pilots in that group. ... Further, although Class I pilots were involved in few accidents, they accumulated a substantial number of flight hours. Thus, they contributed substantially to the denominators (hours flown) of the accident rates and contributed relatively little to the numerators (number of accidents). ... [Kay, 1993, p. 2-2, emphasis added.]

And further:

Golaszewski performed no statistical analyses on his data,¹⁰³ depending only on visual inspection of the data. As we argue in detail in Section 4.4, the data were quite amenable to statistical analysis. ... [Kay, 1993, p. 2-3.]

Thus, even though replete with attractive tables and graphs, none of the conclusions drawn from the Golaszewski study - either within the study or by others relying on it - could be considered anything more than "informed estimates." This study is not the FAA's forcefully promoted "statistical analysis" presenting "the best scientific evidence available." From an even more intriguing age 60 rule perspective, moreover, the most heavily relied upon - and most corrupt - of Golaszewski's data - that representing "professional pilots" with medical Class I and II certificates - *do not even exist in his Flight Time Study*. These data appear, instead, as a one sentence "instruction" buried in a footnote.

To isolate the general aviation pilots that are the focus of his study, Golaszewski selected only those with medical Class III certificates.¹⁰⁴ But for "a point of reference,"

¹⁰³ Golaszewski was neither educated nor trained in statistics at the time of the Flight Time Study. Eight years after completing the project, Golaszewski claimed only a Bachelor's in Accounting and a M.P.S. in Public Sector Management and Finance. (From statement of professional qualifications Golaszewski provided to the FAA in support of another successful bid for another "statistical" examination of pilot risk. See discussion beginning p. 40, below.)

¹⁰⁴ This is an excellent selection choice for this purpose. Pilots with only a third class medical certificate, without exception, can fly only for personal (non-compensated) business or pleasure - the essence of the general aviation pilot. this would have been - could have been -

Golaszewski stated that he would compare the experience of these general aviation pilots in selected instances.¹⁰⁵

... to [that] of pilots with Class I medical certificates (generally Air Transport Pilots) and Class II medical certificates (generally Commercial Pilots).

This comparison could not be made with the data as it appeared in his study, however.

For this purpose, Golaszewski instructed in Footnote 5, p. 10:

Accident rate data for Class I and Class II pilots (as a group) are derived from [sic] subtracting the Class III pilot data from that for all pilots.

It is this "derived" Footnote 5 data that is the most seductively deceptive, however, because:

- It allows FAA to repeatedly cite this population as "representative" of air carrier pilots "because" it includes those pilots "who have passed medical standards required of airline pilots."¹⁰⁶
- It increases proportional representation of air carrier pilots in this "professional pilot" population - thereby magnifying the change (apparent increase in risk) as they are forced out at age 60 by the age 60 rule. (See Kay's explanation of this effect of proportional representation, above.)
- It makes the resulting *appearance* of an increase in risk beginning at age 60 *difficult to impossible to verify* because the rate equation data cannot be assessed directly.¹⁰⁷

While the FAA has repeatedly presented depictions (graphs) of these patently flawed "Footnote 5" results to a world-wide audience as "proof" of the older pilot's increased risk of accident, FAA has also:¹⁰⁸

an excellent summary for the 1977 Booz examination of "civilian" pilots by their non-professional pilot occupational categories. It is meaningless, however, for air carrier pilots.

¹⁰⁵ Flight Time Study, at p. 2.

¹⁰⁶ Brief of Respondents (FAA) in Baker v. FAA, No. 89-2524, (1989) Court of Appeals for the Seventh Circuit, at 7. Reported at Baker v. FAA, 917 F.2d 318 (7th Cir., 1990).

¹⁰⁷ Subtract the Class III accident count and flight hours from the "all" pilots data for 3 flight time categories (recent, total, and combined). 8 age brackets, and 6 experience levels 288 subtractions just to get the numerator and denominator data. Then execute 144 divisions to produce the "derived risk" data, then plot it for the "visual" inspection.

¹⁰⁸ The most recent failure to disclose appears throughout the four Reports produced pursuant to the OAM research task AAM-00-A-HRR-520.

- never admitted in any of these public presentations that the entire study was rejected and refused publication at time of delivery;
- never admitted that its flaws relative to the age 60 controversy have been exposed, explained, and discredited by every credible, independent investigator that has examined it; and
- never admitted that the study was - for all intents and purposes - nothing more than a disingenuous move to avoid the grant of exemptions as recommended by the NIH/NIA panel in the NIA Report.

The callousness and breadth of the FAA's reliance on, and dissemination of, this rejected and discredited "study" is difficult to comprehend.¹⁰⁹ Among the various entities to which the study and its flawed results have been promoted - either directly by the FAA or through its complicity - are:

- In 1989, FAA cited the Golaszewski Flight Time Study to the Government Accounting Office (GAO) as one of the "major studies" it had relied on "in rejecting alternatives to the Age 60 Rule." (Aviation

¹⁰⁹ I identified a number of the instances of FAA dissemination and endorsement of these flawed results in an Amicus brief to the Seventh Circuit in In the Matter of Professional Pilots Federation, Record No. 94-3753, FAA's attitude with respect to this submission is reflected in its Response to this submission:

The Golaszewski Study is a 1983 statistical analysis funded by the FAA that showed that accident rates for certain categories of pilots increase after age 60. [At 3, emphasis added.]

...

Woolsey also denounces the FAA because others have relied on the Golaszewski Study. ... Suffice it to say that *the 1983 Study is a publicly available document*, which may be used or criticized as one sees fit. [At 5, emphasis added.]

As noted above, the study was *not* a "statistical analysis." This status was expressly denied in the study, itself (p. 6), and by Kay (under contract to the FAA to examine that study): "Golaszewski performed no statistical analysis on his data, depending only on visual inspection of the data." The study had no credible "showings," none having been tested for significance. Conclusions - such as they were - were confined to visual inspection. And for the FAA's repeated assertions of choice - even that was not possible because its supporting data existed only in a 25-word footnote - and never independently produced by FAA.

And the FA's disregard of any measure of its own credibility - and the governments' at large - was total: "Woolsey also denounces the FAA because others have relied on the Golaszewski Study. ... Suffice it to say that *the 1983 Study is a publicly available document*, which may be used or criticized as one sees fit."

Safety: Information on the FAA's Age 60 Rule for Pilots, GAO/RCED-90-45FS, November, 1989 at 17.)

- Again in 1989, FAA cited the Golaszewski study to the Seventh Circuit as a "statistical" analysis and the "best scientific evidence available" showing that older pilots had increased risk after age 60. To bolster its presentation, FAA reproduced Figure 2 from the NIA Report, along with two new bar charts of Golaszewski's "Footnote 5" data mirroring - thus "revalidating" the flawed Figure 2. (Brief of Respondents (FAA), in Baker v. FAA, reported at 917 F.2d 318 (7th Cir., 1990).)
- Golaszewski's study had earlier become the basis for a private analysis prepared by a Dr. Charles Billings in defense of Boeing Aircraft Co.'s reliance on the FAA's Age 60 Rule as a BFOQ for the mandatory retirement of its test pilots. (EEOC v. Boeing, C84-187R (W.D.Wash.).)
- Boeing eventually settled with EEOC, and Billings did not testify. Billings' summary of the Golaszewski data on behalf of Boeing became, however, the foundation of yet another review of the Rule, this time by Congress' Office of Technology Assistance (OTA). Although Boeing had hired Dr. Billings as an individual, and his efforts for Boeing were personal, the Golaszewski/Billings/Boeing data appeared in the OTA paper as a "NASA Ames" work product. (OTA Staff Memorandum, September 17, 1990, "Medical Risk Assessment of the Age 60 Rule for Airline Pilots." at 2.)
- This Golaszewski/Billings/Boeing/"NASA Ames" and now OTA study has since been cited by additional, multiple defendants in their efforts to resist continuing litigation by the EEOC opposing age discrimination of corporate (Part 91) pilots. (See, Declaration of Karen H. Baker, Assistant General Counsel, Systemic Litigation Services, Office of General Counsel, EEOC in EEOC v. Delta Air Lines, Inc., CV No. 89-0517-AWT (C.D.Cal.), discussion throughout, *concluding*: "The OTA memo at issue here had no panel of experts, took only two weeks, was not approved for release, and was not submitted for publication." at 10.) (See also, Declaration of Dr. T. Franklin Williams, Director of the National Institute on Aging, for EEOC v. Lockheed Corp., CV 90-5253 (C.D.Cal.) discussion, pp. 11-15, *concluding*: "The OTA study is nothing new, is not research, and is not authoritative in the field of gerontology. What its purpose was is unclear. However, it should be given no value in the areas of gerontology or medicine." at 15.)
- As noted above Billings presented his version of the study in defense of age discrimination charges against Australian carriers in Allman v. Australian Airlines Limited and Christie v. Qantas Airways Limited.

Industrial Relations Court of Australia - where both it *and the entire U.S. debate on the issue* - including the OTA study - were roundly criticized as incredible.

- In 1991, FAA took the same Footnote 5 bar graphs it had produced for the Seventh Circuit in Baker, and submitted them to ICAO as "statistical data on how pilot accident rates vary with age." (Air Navigation Commission ANC Task No. MED-7101, Upper age limits for flight crew members, Discussion Paper No. 1 Related to AN-WP/6538 29/4/91, at p. 1 and Appendix A.) (Emphasis added.)
- And in the four most recent of its studies (in 2000, 2001, by Broach, *et al.*) - discussed more fully below - FAA *repeatedly* refers to the Golaszewski study in favorable terms, with not a single acknowledgement of its flaws. For example, in Report I, the author (Schroeder) declares - without caveat:

The work of Golaszewski (1983) is most commonly cited. He found that Class I and II pilots exhibited higher accident rates at all level of total flight time between 101 and 5,000 hours. ... Outcomes of that research are noted in the Office of Technology Assessment (OTA) (1990) review, along with recommendations regarding medical risk assessment. ... [Report I, at 2.]

If any executive branch agency conduct *ever* justified enactment and enforcement of the Paperwork Reduction and Data Quality Acts - the FAA's relentless defense of its age 60 rule with repeated references to the rejected, discredited, and publication-refused Golaszewski Flight Time Study stands high on that list.

If possible, Golaszewski's later analysis of pilot risk (1991. 1993) is even more flawed.

In 1990, the FAA's Office of Safety Analysis commissioned another "statistical" analysis of age-experience-risk to the non-statistician Golaszewski.¹¹⁰ It doesn't seem possible, but for age 60 purposes, this study was even more flawed than his 1983 effort.

¹¹⁰ General Aviation Safety Studies: Preliminary Analysis of Pilot Proficiency, Final Report. Abacus Technology Corp. and Gellman Research Associates, Inc. December 29, 1991. Contract No. DTFA01-90-Y-01023. [Golaszewski, 1993.]

Obviously incorrect, in a FOIA response by the FAA to a request for the particulars on this contract, FAA stated that this study cost the government \$20,854,730.00, with a "Fixed Fee"

Again claiming to assess risk of general aviation pilots, Golaszewski tries to compare them with professional pilots. To do so, he divides the pilot population and the accidents into three groups - A, B, and C. Group A includes professional pilots with a Class I medical certificate - *but excludes air carrier pilots*. Groups B and C are of Medical Class II and III pilots, respectively - but are not discussed here because the errors in the Group A pilot data corrupt the study beyond repair.¹¹¹

At pages 2-14 - 2-15, Golaszewski declares that for his Group A pilots (those with Class I medical certificates - *but excluding all air carrier pilots*) he counts only half of the pilots and then annualizes these pilots flight hours by half because "they have two physicals and receive two certificates in a 12 month period." This is an incredible statement from an investigator of Golaszewski's extensive experience with both this issue and the FAA. The only medical Class I pilots that require "two physicals and receive two certificates in a 12 month period" are the air carrier pilots that Golaszewski had expressly excluded from this Group A. However Golaszewski's description of his methodology might be interpreted - he has "halved" or "halved, then halved, again" the denominator values for these Group A pilot data. The results suggest they were quartered - halved, then halved, again.

Golaszewski assumed initially that the accident rates for private (medical Class III) pilots would be higher than that of professional pilots of all age and experience

of \$1,668,378.00. With further enquiry, I determined that this was an "umbrella" contract to cover a number of deliverables - thus the high dollar cost. However, in telephone conversations, I was advised that FAA personnel (from offices ASU-1, ASU-002, ASU-300, ASU-360, ASU-370, ASY-001, and ARC-1) had found 20 or so of the "umbrella modifications," but that no record of this particular study could be located.

My now 22-month old appeal to Ms. Ruth Leverenz, Assistant Administrator for Regional Center Operations, ARC-1, dated March 29, 2001 for information related to this study remains unanswered.

¹¹¹ A second fatal problem with the study is lack of transparency with the accident count allocation among the three groups. Golaszewski does not provide an explanation - *any* explanation - for either the accident selection criteria or their allocation among the three pilot groups that can be correlated with the pilot selection and/or allocation criteria. See Golaszewski (1993), pp. 2-9 through 2-13.

groups - this study finds that they were not. Except for the analysis by age, alone (where private pilots were actually lower at the younger and older ages, and comparable in the middle ranges),¹¹² the risk for private pilots at all experience levels - whether recent or total - were dramatically *lower* than those of Group A pilots.¹¹³ Moreover, Golaszewski appears not to have noted the discrepancy. He certainly provided no explanation. However - denominator values 75% less than they would otherwise have been (by "halving" first the population then "halving" again their flight hours) would explain a large portion of the anomaly.

When commenting on this study in Report 1, Schroeder made no mention of the confusion as to Group A pilot count or denominator value adjustments, or to the indeterminate nature of accident count allocation. Nor did he note that, contradicting the great mass of conventional wisdom, Golaszewski had "found" higher - sometimes highest - risk for the best and most experienced pilots. Instead, he simply reported:¹¹⁴

... Accident rates for Group A pilots declined from 17-19 through 40-49 after which rates increased. ... Group C pilots exhibited a general increase in accident rates through 50-59 then declined for the 60-69 age group.

Although the FAA accepts, and today reports, its "findings" without question, the second and third of Golaszewski's studies are both, essentially, garbage. One hopes they are not 20 million *dollar* garbage.

With one unfortunate, FAA induced exception, the Hilton Systems Consolidated Database Experiments is the finest pilot-age-risk analysis extant.

Apparently following the court's exhortation in Baker v FAA (1990) that it was "time to move on," FAA contracted with the Hilton Systems, Inc and Lehigh University for the Age 60 Project and its included Consolidated Database Experiments. Without a doubt, this is the finest statistical analysis of the pilot age-risk relationship extant.

¹¹² See Golaszewski Exhibit ES-1, page ES-7.

¹¹³ See Golaszewski Exhibits ES-3 and ES-4, pages ES-9 and ES-10, respectively.

¹¹⁴ Report 1, at 33.

Although sorting by medical class alone is a rather coarse partitioning, Kay (Lehigh University) followed the directed protocol faithfully - maintaining strictly homogeneous pilot grouping by medical class throughout his study. Not only did Kay refuse to combine data from different medical classes, but he also identified those earlier studies - including Golaszewski (1983) - where that practice was followed, and explained the errors that resulted.

To insure the accuracy and reliability of his raw data, Kay tracked, individually, pilot and accident data through five different database systems - four FAA and one NTSB. Pilots were identified through their Social Security and (pilot) certificate numbers, and accidents through the pilot certificate number. In this way, pilots were so precisely "tracked" that those with medical Class I certificates who had three FAA physicals in a given calendar year (e.g., January, June, and December) were identified and their reported flight times appropriately "annualized." "Data encoding" differences between FAA and NTSB data sets were rationalized - even accommodating changes that had occurred in the NTSB encoding system over the years. Kay's inquiry identified three months in 1986 (June, July, and August) in which much of the FAA's pilot data were missing. As a result, the entire year's data were excluded from his analyses. Identical "queries" were established and applied to the FAA and NTSB databases to insure compatibility between numerator and denominator data for his risk calculations.

To more sharply focus on *air carrier* pilots actively engaged in Part 121 flight operations - the real target of *all* these studies - Kay "screened" the medical Class I data repeatedly, each time with additional queries to ever more narrowly isolate the target population.¹¹⁵ Kay's study is an important illustration of the value of - indeed, the

¹¹⁵ Kay's process for isolating the population - thereby accurately defining the risk - for active air carrier pilots is instructive.

For age-experience-risk data for "all" medical Class I pilots, Kay initially screened for (in addition to a valid Class I medical certificate - i.e., within 6 months): 6 each 5-year age brackets (30-59), recent flight time > 0, and total flight time > 0. An average accident rate, ages 40-59 was found to be .069/100k hours. (See Table B-1A, p. B-1.)

necessity for - discipline in data management for age 60 rule analysis, particularly where, as here, there are gross disparities in every parameter - qualifications, experience (total and recent), and risk. A brief summary of the data extracted from Kay's data tables illustrate the effectiveness of his screens, and gross differences in risk they reveal between the various classes/categories of pilots.¹¹⁶

<u>Pilot Class (Ages 40-69, Class I 40-59):</u>	<u>Rate/100k hours</u>
All medical Class III pilots	9.67
All medical Class II pilots	5.98
All medical Class I pilots	0.69
Medical Class I pilots w/ >250 hrs recent	0.47
Medical Class I pilots w/ >700 Hrs recent	0.40
Medical Class I, ATP (air carrier pilots)	0.06
 All pilots Class I, II, & III, ages 40-59	 2.33
All pilots Class II & III, ages 60-69	6.72

To find medical Class I pilots with greater experience, Kay changed the screen for recent time to > 250 hours/year and for total time > 2000 hours (minimum necessary for the ATP pilots license). The average accident rate for this group, ages 40-59, fell slightly to 0.47/100k hours. (See Table B-3B, p. B-4.)

To identify pilots that were *more likely* to be air carrier pilots, Kay increased the "recent experience" query to recent time > 700 hours/year. The average accident rate for this more experienced group (ages 40-59) fell again - to 0.40/100k hours.

But to identify pilots that were *almost certainly* to be air carrier pilots, Kay added queries for "employer" (any one of 16 specifically identified Part 121 air carriers), and the pilot license ratings (including the ATP) necessary to fly Part 121 type aircraft in Part 121 operations. In this way, Kay identified pilots *virtually certain* to be *active air carrier pilots*. With this last screen, the pilot flight hour (denominator) values dropped by a dramatic 40% while the risk, itself, dropped an even more dramatic 85% to 0.06/100k hours. (20,000,000 to 12,000,000 hours and risk from 0.40 to 0.06, respectively. See Tables B-5B and B-6 B, pp. B-6 and B-7.)

¹¹⁶ As noted by Kay, risk in all classes of pilots declined with the younger ages, leveling off with age. Visual inspection of his results (Figures) revealed that at ages 40 and above for all pilot groups, risk was relatively constant. Thus - to construct this table, data for ages 40 and above (40-59 for medical Class I pilots, 40-69 for medical Class II and III pilots) were extracted from Kay's backup data (Appendix B). Average "weighted" risks were calculated by adding the "Accident Count" and "Annualized Recent Time" for the respective pilot classes, averaging each separately, then for each class dividing "average accident count" by "average flight hour" to determine "risk."

Several points are illustrated in this table:

- 1) The disparities in risk among pilots defined by medical class alone are "striking." (Note risks declining from 9.67 to 5.98 to 0.69 for medical Class III, II, and I.)
- 2) These "striking" disparities make any aggregation among or between them to produce a single risk profile, based on medical class alone, inappropriate.¹¹⁷
- 2) Even within the single medical Class I pilot group, risk changes measurably with experience. (Note risks of 0.69, 0.47, and 0.40 for hours >0, >250, and >700.)
- 3) Medical Class I pilots that are virtually certain to be active air carrier pilots are the safest pilots in the system - not merely the safest, but by orders of magnitude. (Compare risks of 9.67 vs 5.98 vs 0.69 vs 0.06 as you go from general aviation to medical Class II, to (overall) medical Class I, to air carrier pilots.)
- 4) Inferences about *air carrier* pilots that would be drawn from any other group(s) of pilots - singly or in combination - are inappropriate.
- 5) The false and misleading *appearance* of an increase in risk when medical Class I pilots are first included in a heterogeneous group of young and old pilots, then later excluded from the older pilots, is apparent in the last two lines of this table.¹¹⁸
- 6) The "data" that show the most experienced pilots - those "most like air carrier pilots"¹¹⁹ - experience higher risks are now shown to be false and misleading.¹²⁰

¹¹⁷ As early as 1956, FAA (actually its predecessor, CAA) determined that assessing risk by medical class, alone, was inappropriate and produced misleading results.

Office of Aviation Safety (author). The Age Distribution of Captains in Air Carrier Accidents, Department of Commerce, Civil Aeronautics Administration. July 1956 (For Official Distribution.)

¹¹⁸ Note that risks of 2.23 w/ Class I pilots present under age 60, increased by 300% to 6.72 after their exclusion at age 60 by the age 60 rule. Even with this tripling of apparent risk (2.23 to 6.72), the Australian court declared: "I find it surprising, when I take that point into account, that the increase in [the Golaszewski/Billings] post-60 accident rate is as small as it is." Christie v Qantas.

¹¹⁹ NIA Report, p. 2, referring to the Booze (1977) data of Tables 5 and 7.

¹²⁰ As based on the Booze (1977) Tables 5 and 7 data: IOM Report (1981), NIA Report (1981).

When reviewing Kay's "Final Report" *as originally submitted*.¹²¹

Our analyses provided no support for the hypothesis that the pilots of scheduled air carriers had increased accident rates as they neared the age of 60. ... [T]he data for all the various groups of pilots were remarkably consistent in showing a modest decrease in accident rate with age, a trend shared by the data of Figure 5-5. [Ed: Medical Class I pilots with > 700 hours recent time.] ... [At 6-2.]

the FAA's contract monitor at CAMI (Ms. Pamela Della Rocco) felt that these conclusions would be unacceptable to her employers.¹²² In an effort clearly intended to provide the support for the rule she felt was needed, Della Rocco returned the paper to Kay with a request that he articulate an age - some fixed age - that the FAA could then defend.¹²³

Responding to this extra-contractual order, Kay reexamined the previously prepared and published data by eye (called "data snooping") to determine where a "reanalysis" would produce the requested result. In this process, Kay identified four short segments of data - one for medical Class II and three for Class III pilots - that, if extracted and assessed as if "planned" rather than "post hoc" would produce an increasing trend in risk above age 60 with "statistical significance." By focussing on his fourth sample (medical Class III pilots, year-by-year, age 60-69),¹²⁴ Kay "found" his statistically

As based on the Golaszewski (1983) Footnote 5 data: FAA in Baker (1990), FAA's Broderick to ABC/TV (1990), Billings to OTA (1991), FAA to ICAO (1991), Billings to Australian court in Christie (1994), etc.

¹²¹ Kay's "Final Report," as originally submitted, concluded its discussion on p. 6-2 with the paragraph quoted in part here.

¹²² In Ms. Della Rocco's words - referring to the report's lack of support for the age 60 rule - "It showed that the emperor wore no clothes."

¹²³ See: Leuter, Woolsey to Della Rocco dated August 19, 1993 - Certified Mail, Return Receipt.

Also: Affidavit of Samuel D. Woolsey subscribed and notarized 28 Dec., 1994.

¹²⁴ Table B-10B, page B-12.

significant increasing trend beginning at age 63.¹²⁵ This allowed him to satisfy Della Rocco's request for a specific age with this declaration:

Taken together, these analyses give a hint, and a hint only, of an increase in accident rate for Class III pilots older than 63 years of age. This suggests that one could cautiously increase the retirement age to age 63. [At p. 6-3.]

But even within the context of the "planned" v "post hoc" examination as conducted, the "increasing trend" Kay "found" is questionable - at best.

Both the increasing trend beginning at age 63 and its statistical significance resulted from the chance placement of just two of the data points in this short snippet of data. The risk for age 63 was low (4.10/100k) and that for age 67 high (7.71/100k). Disregarded by Kay in his reanalysis is the fact that both appear in a region of increasingly sparse raw data,¹²⁶ and both lie more than 2 *std dev* from the mean for the dataset from which they were drawn - year-by-year, ages 50-69. Had these two data points been reversed, or correctly excluded as "outliers" appearing in an increasingly sparse dataset, no increase in trend would have resulted - much less one with statistical significance. [Ref: Table B-10B, p. B-12.]

¹²⁵ In Christie v Qantas, the Australian court - unconstrained by any duty of deference to agency conduct and after a full examination of the facts presented - expressed bewilderment with the whole U.S. approach to air carrier pilot risk analysis, with a specific criticism of reliance on the data for medical Class III pilots - those most unlike air carrier pilots.

[Criticizing Golaszewski]: To start with, it seems to me surprising for a study to take all accidents, without making any attempt to classify them according to cause. The only relevant accidents, surely, are those stemming from conduct or health of the pilot. [At 59.]

....

[Criticizing Kay]: To my mind, it was a strange decision to select as a surrogate for airline pilots that group of pilots, Class III medical certificated holders, that was most unlike airline pilots, who must hold Class I certificates. [At 61.]

It is clear that the court was totally unaware of - but not fooled by - the circumstances under which these two reports had been prepared, and had appeared before it.

¹²⁶ After flight hours and accidents averaging 1,837,000 and 111 (respectively) for ages 50-59, the same data for both declined by 75% for ages 60-69: from 1,312,000 to 331,000 flight hours and 85 to 21 accident count.

The only change Kay made in his "Final Report" when resubmitting was the addition of seven paragraphs he added at the end of the Summary and Discussion portion of the report. The second of these added paragraphs included this carefully drawn caveat:¹²⁷

Statistical controls are applied to ["post hoc"] tests to counteract their being biased in favor of finding statistical significance. In the analyses discussed below, [these controls were omitted] to maximize the probability of finding even hints of an increase in accident rate with age for pilots near age 60.

The FAA has regularly ignored this careful explanation - as well as its origin - in its dissemination and use of the "age 63" "suggestion" as justification for retaining the rule unchanged.

The FAA's 4-report product prepared pursuant to OAM Research Task AAM-00-A-HRR-520 seriously flawed in data, analysis, and results - presenting and promoting false and misleading conclusions and/or inferences throughout.

Prior to the initiation of the FAA's massive, 4-report project complained of here,¹²⁸ there had been - surprisingly - only three independent collections of data even arguably relevant to age 60 rule related analyses of risk during the entire 40-plus year history of the age 60 rule. These were Booze (1977),¹²⁹ Golaszewski (1983),¹³⁰ and Kay (1993). Of these, only the Kay (1993) data and results are credible for any purpose.¹³¹

In these most recent FAA/CAMI reports, FAA chose not to work from and improve upon the legitimate findings of Kay, but rather to replicate - and thereby

¹²⁷ *Id.*, at 6-2.

¹²⁸ Reports 1-4 were produced pursuant to Senate Appropriation Committee's request in S.Rep. 106-55 under (FAA) OAM Research Task AAM-00-A-HRR-520.

¹²⁹ Booze Tables 5 and 7.

¹³⁰ Golaszewski Footnote 5 instruction-set.

¹³¹ As noted at several places above: 1) analyses of amalgamations of incompatibly diverse data sets produce results applicable to neither/none; 2) the extraordinarily safe data for air carrier pilots severely depresses the computed risk for any group in which they are included, and 3) removal of these air carrier pilot data at age 60 by the age 60 rule produces the false and

revalidate - the Golaszewski Footnote 5 instruction set. In this effort, not only did FAA ignore the well known, widely recognized, and repeatedly exposed flaws of the Booze/Golaszewski-based analyses of heterogeneous pilot groups, but rather extolled the "virtues" of both the earlier Golaszewski and its own flawed results.

Report 1:

Referring to Golaszewski (1983), Schroeder, in Report 1 states:

During the last two decades, several studies have been carried out to assess the relationship between age, experience, and pilot performance ... *The work of Golaszewski (1983) is most commonly cited.* He found that *older Class I and II pilots exhibited higher accident rates at all levels of total time between 101 and 5,000 hours.* [At 2, emphasis added.]

Without explanation, Schroeder (author) fails to add that the "most common" citations to Golaszewski were negative, and that it had been discredited and rejected at the moment of submission (in 1983), publication refused by the FAA, itself, "because of data deficiencies" known to both the FAA and the scientific community at large. Also undisclosed was that the "higher accident rates" for older pilots were known within the FAA, itself, to be the false and misleading artifact of the rule, itself. And, further, that these inherent flaws had been exposed, explained, and criticized both as to their methodology and results in virtually every - certainly every *independent* - analysis since.

The remainder of Schroeder's comments were similarly supportive of the "U"-shaped curve as representative of risk of accident after age 60. Unacknowledged, too, for example, were the Darwinian "selection" effects of increased medical disqualifications and the inappropriateness of comparing automobile accident statistics among a totally unregulated driver population to the most highly qualified and regulated air carrier population. Absent, too, were the many expressions of discontent with the rule from among the international community.

Report 1 (Schroeder) is not a "white paper," it is a "whitewash" paper.

misleading *appearance* of an increase in risk beginning precisely at age 60 -- the so-called Age 60 Rule Effect.

Report 4:

In the final chapter of Report 4 (Chapter 6, Discussion), Broach (FAA/CAMI author) declares:

... [T]he results of the three analyses reported in this study are consistent with the conclusions reported by Golaszewski (1983; 1991; 1993) although the methodologies differed significantly. [At 44.]

and:

... The analyses reported in this study are based on a sample that is very similar to the working population of airline pilots subject to the Age 60 Rule. [At 47.]

Both statements are not simply incorrect - they are preposterously so.

With respect to Golaszewski (1991; 1993),¹³² those studies were garbage and should have no relevance in any inquiry into aviation risk - certainly none related to the age 60 controversy.¹³³ However, even accepting its results, *arguendo*, Broach's claim here that the two studies' results were "consistent" is, at best, contrived - if not actually disingenuous.¹³⁴ Comparing "apples to apples" (pilots both licensed and medically certified as "professional pilots"), Golaszewski's Groups A and B, together, were "found" to have *consistently increasing risk with age (alone)*¹³⁵ and - inexplicably - *consistently decreasing risk with experience (total and recent flight hours)*.¹³⁶

¹³² The 1993 study was, essentially, the same as that of 1991, merely rephrased and republished.

¹³³ See Footnote 110, page 40 and associated text.

¹³⁴ Broach's choices of the Golaszewski data for this comparison can not be accepted as either ignorant or innocent. Broach states - repeatedly - that he examines "[all] pilots holding ATP or commercial and first- or second-class medical certificates," and that "this represents the broadest definition of the population most likely to be [airline pilots]." The only possible "apples to apples" comparison between this data and that of Golaszewski (1991; 1993) is to a combination of Golaszewski's Pilot Groups A and B.

That Broach's comparisons are unfailingly for either - or both - increase in risk above age 60 and/or the classic "U"-shaped curve even where, as here, they do not exist, is determinative as to intent.

¹³⁵ See "Exhibit 3-2," p. 3-4.

¹³⁶ See "Exhibits 3-4 and 3-5," pp. 3-7 and 3-9, respectively.

With respect to Golaszewski (1983), the new (Report 4) results are not merely "consistent," but *identical*. This identity arises not *despite* inappropriate and irrelevant comparisons (Broach v medical Class III pilots), however.¹³⁷ Nor does it arise *despite* "methodological differences." Instead, the identity in result arises *because*, for both the Broach and corresponding Golaszewski (Footnote 5, Class I and II pilots) data, both populations and methodologies were essentially *identical*:

- Both included "all" pilots in the groups they analyzed.¹³⁸
- Both included pilots of both medical classes -- I and II.
- Both grouped pilots by age, then computed risk based on "annualized" recent flight hours for each age group.
- Both used the standard rate equation: "risk" = "accident count" / "annualized hours" (in 100k units).
- In both populations, data for the ultra-safe air carrier pilots were included in the under-60 ages - depressing the risks for those brackets, only.
- In both populations, the data for the ultra-safe air carrier pilots were excluded from over-60 risk calculations.¹³⁹

As flight time can be accumulated only over time - the same as age - the inconsistent results are irreconcilable.

¹³⁷ First, Broach's characterization of the Golaszewski Class III pilot data is incorrect. For "all" Class III pilots, risk declines consistently from age 20-69 - whether measured for total or recent time.

Class III, Risk by Recent Time: 15.7/100k hrs., 13.9, 12.2, 9.6, 9.2. [pp. A-11 - A-15.]

Class III, Risk by Total Time: 15.7/100k hrs., 13.9, 12.2, 9.6, 9.2. [pp. A-3 - A-7.]

Considering that all Broach's analyses were for "all" pilots in his population categories, and none by "experience," any selective comparison by Broach to any other study population by "experience" - when "all" comparisons are available - can only have been intentionally inappropriate. This impression of disingenuous design is bolstered when *every* such comparison made by Broach in his three Reports (Reports 2, 3, and 4) endorses the "increasing trend above age 60" and/or the classic "U"-shaped curve -- or both.

¹³⁸ Two slight differences exist here: 1) Golaszewski's Footnote 5 data are "derived" after extraction from the FAA's data source while Broach's were extracted directly; Golaszewski used "all medical Class I and II data. Broach restricted the selection to those who had also identified themselves as "professional pilots. Both are minor when considered with the identities that exist.

- In both populations, age 60 rule distortion of the pilot populations created the false and misleading *appearance* of an increase in risk precisely at age 60.
- In both of these "studies," it is this false and misleading *appearance* of an increase in risk at age 60 that FAA relies on in its unceasing support for the age 60 rule.

Given this tone and structure of this 4-report, FAA/CAMI project, the only plausible - possible - explanation for the FAA's public dissemination of and private reliance on this thoroughly flawed effort is to provide new, "scientific proof" of increasing risk above age 60 in order to reinvent under new authority the 1983 Golaszewski Footnote 5 results.

As noted above, the principal author (Broach) presented an extract of his most corrupt Report 4 to the annual Aerospace Medical Association Meeting, Reno, NV, May 6-10, 2001. Also as noted above, the PowerPoint slides Dr. Broach used in his public presentation are available - in Adobe Acrobat (.pdf) format - at

http://www.age60rule.com/docs/broach_reno_presntn.pdf.

Following that presentation, I objected to the Association for allowing such a flawed and misleading presentation to have been made to the AsMA members. Although directed primarily at Broach's AsMA presentation, it provides a far more complete analysis of the many flaws in Report 4 than does this letter. A copy of that letter to the AsMA, dated November 20, 2001, is available (in .pdf format) at

http://www.age60rule.com/asma_web_letter.pdf

I also provided an informational copy of the letter to the AsMA to FAA Administrator Jane Garvey, also dated November 20, 2001. A copy of the cover letter to Administrator Garvey is also available - again, in .pdf format - at:

http://www.age60rule.com/docs/2001_sdw-garvey_letter.pdf

¹³⁹ Broach's restriction of his population to those claiming "professional pilot" status increased their concentration - as a percent of the population - in the under-60 age brackets. This higher proportional representation would further depress the group risk as calculated for

All three of these documents are hereby incorporated into this letter by reference.

Report 2:

Report 2 bears no relevance to the request contained in S. Rep. 106-55. Its true purpose can only be inferred from its contents - an "analysis" of a *Chicago Tribune* article of July 11, 1999 and a lengthy discussion to introduce the methodology the author intends to follow in Reports 3 and 4.

Report 2 does not, however, analyze the *Tribune* article,¹⁴⁰ but rather a different analysis by a different author (Savage) on which the *Tribune* piece was based. Its extensive and sometimes confusing discussion of errors found in the Savage analysis obscures the fact that it (Report 2) found older pilots (ages 50-59) even more safe than had the original *Tribune* article. It did so by "finding" "new" pilot census data with which to "adjust" the Savage analysis.¹⁴¹

During the Report 2 reanalysis, Broach buried the original conclusion reported in the *Tribune* story that pilots over 60 had the safest record by far. The favorable *Tribune* showing for the over-60 pilots was buried by including their 9 accidents among the 25 excluded in its reanalysis and the existence of 1,977 over-60 pilots were reduced to 9 in a "Note" at the bottom of the last page:

... , in 9 other cases the airmen was [sic] over age 60; ...

No other reference to these 1,977 over-60 pilots - or their exemplary safety record - appear in Broach's "reanalysis."

A second result of the Report 2 reanalysis of the *Tribune*/Savage data was conversion of a risk profile with no significant changes across age brackets to the classic

these under-60 brackets - exaggerating the false *appearance* of an increase in risk when they are forced to resign at age 60.

¹⁴⁰ Schmeltzer, J., *FAA data find older hands are steadier: Pilots near retirement have fewer accidents*, *Chicago Tribune*, Sunday, July 11, 1999.

¹⁴¹ These adjustments were three: 1) merge 5-year age cohorts into 10-year; 2) increase the "total estimated pilots" during the study period (increase the denominator); and 3) exclude 25 accidents/incidents (reduce the numerator of the rate equation).

"U"-shaped curve. The significance in change appeared at the youngest ages, not at the older, however.

Report 2's lengthy technical discussion - particularly with its unqualified references to and support for the flawed and discredited methodologies of Golaszewski (1983) - inescapably suggest an intentional disregard of the factors that control a valid age vs. risk analysis *within the context of the age 60 rule*. More likely, however, Report 2 is an effort to lay the groundwork for its later replication of the Golaszewski results in Report 4, justify his own later analyses of heterogeneous populations demographically skewed by the age 60 rule as valid methodology, and by those results, the age 60 rule, itself.

Report 3:

Report 3 identifies and examines a subset of Part 135 pilots well suited to serve as a proxy for their Part 121 airline pilot cohorts. As such, this subset of pilots and this Report could serve as a basis for agency discussion of the scientific basis for the rule. However, absent the care and discipline employed by Kay through his Tables B-1B, -3B, -5B, and -6B in ever more narrowly defining a particular pilot sub-group (in this case, Part 121 air carrier pilots), Report 3 remains a flawed, near miss.

Unlike the inclusion of the broadest possible range of "professional" pilots in Report 4, Report 3 strictly limits its populations (with identical criteria for both numerators and denominators) to pilots in Parts 121 and 135 flight operations that possess an ATP license and an effective 1st class medical certificate.¹⁴² Examination of this group reveals that it includes (in addition to all Part 121 captains), a hitherto overlooked subset of the air carrier pilot population - captains of the largest and most sophisticated aircraft in Part 135 flight operations as identified in 14 CFR § 135.243(a):

- turbojet powered aircraft, or

¹⁴² The only pilots required to have both licenses are all Part 121 captains and the particular subset of Part 135 captains discussed here - and none others.

- aircraft having a passenger seating configuration of 10-30 seats; or
- multiengine aircraft operated by a "Commuter Air Carrier."

The requirement that captains of these aircraft possess an ATP and an effective 1st class physical¹⁴³ insures that they satisfy not only the same medical class, but also minimum standards of demonstrated skill, knowledge, and experience as are required of Part 121 captains.¹⁴⁴ But being Part 135 (not Part 121), these pilots could have, and many did continue flying past age 60 during the course of this study¹⁴⁵ - and would thus likely appear as the bulk of Report 3's age 60-63 pilot group. Thus, in every respect - license, medical certificate, aircraft types, flight environment, and standards of demonstrated skill, knowledge, and experience - including flight past age 60, this particular subset of Part 135 captains stands as an excellent proxy for inferentially assessing the risks of accident for Part 121 air carrier captains should the Part 121 pilots be permitted to fly past age 60.

Moreover, the data actually collected and examined in Report 3 confirms the selectivity of this screen for this particular subset of Part 135 captains. For example, both Report 4's and Report 3's initial screen for all Part 121 and Part 135 accidents identified 1,334 "useable" records (Report 4, p. 16; Report 3, p. 14), but Report 3's added requirement that the captain have both an ATP and an effective 1st class medical certificate eliminated 48% of those initially identified accidents, leaving 696, with the over-age-60 accident involved pilots from Part 135 operations¹⁴⁶ Unlike Report 4's

¹⁴³ Captains of smaller, propeller-driven aircraft in pure air taxi operations (and all co-pilots) need only a commercial license and a 2nd class medical certificate.

¹⁴⁴ 14 CFR § 61.151 *et seq.*

¹⁴⁵ Current Part 135 pilots are not available for this purpose as the FAA made them subject to the Age 60 Rule in December 1999.

¹⁴⁶ One possible improvement to the Report 3 selection screen is suggested by Hilton Systems' expanded criteria described in its Table B-6B, p. B-7. There, Kay further limited his population to pilots with 700 hours recent and 2000 total flight hours to correspond with the active airline pilot experience, to 15 employer codes in order to select only pilots of the major Part 121 air carriers, and 7 aircraft type ratings appended to the pilot's ATP. Similar restrictive criteria are available to identify the proposed subset of Part 135 pilots.

doubling of risk from the 55-59 to the 60-63 age group, Report 3 finds no significant change between the two groups' risk when the Age 60 Rule forces the Part 121 captains out of the study at age 60.¹⁴⁷

The selectivity and appropriateness of Report 3's selection criteria can also be seen at the low-age end of this study. Report 3's requirement that the pilot possess an ATP guarantees higher experience levels and a minimum age of 23 that eliminate the many entry-level pilots included in the "all other" commercial pilots of Report 4. Thus, because of these more restrictive regulatory standards, Report 3's youngest pilots (all above age 23) can be expected to demonstrate, and do demonstrate a significantly lower risk than the broad array of young, professional pilots examined in Report 4.

More selective screening as illustrated by Kay in his Tables B1 through B6 would further refine the Part 135 pilot population to those of aircraft as identified in 14 CFR § 135.243(a) thus provide a better assessment of their actual risk experience. Until that is done, however, Report 3, with its many favorable and misleading references to Golaszewski - for example - should be banned the same as the other three.

PAPERWORK REDUCTION AND DATA QUALITY ACT IMPACT

With the exception of Kay (1994),¹⁴⁸ all of the many studies discussed above share both a common statistical flaw and that flaw's flawed result: the false and misleading

¹⁴⁷ A significant and unexplained anomaly exists between the Reports 3 and 4 flight hour (denominator) values.

As explained above, Report 3 is restricted in both its numerator and denominator populations to those defined by an ATP and effective 1st class medical certificate. This effectively limits the denominator flight hours to those generated by captains in Parts 121 and 135 operations.

Report 4, on the other hand, is not so restricted (ATP or commercial license and 1st or 2nd class medical certificate), and includes at least potentially, *all* pilots of *every* commercial category. For this reason, one would expect that the flight hours included in Report 4's denominators would be several times greater than those of Report 3's. Comparison of numerator values confirms this reasoning - Report 4 has roughly twice the accident count of Report 3, but its denominator hours exceed those of Report 3 by only about 8%.

appearance of increased risk of accident for pilots over age 60. That these flaws exist, both in methodology and in result, are not open to question or debate. Both flaws have been and are currently recognized and accepted as such across the broadest spectrum of scientific, lay, and judicial fora. Both their methodology and their results are accepted as flawed, even within the FAA, itself, as well as among its contractor personnel. Nevertheless, these flaws appear as the fundamental basis for, thus corrupting the results of the four AAM-00-A-HRR-520 studies complained of here.

As such, all of these studies - with the exception of Kay (1993) *less its extra-contractual addenda* - violate the Paperwork Reduction and Data Quality Acts' requirements for "quality, objectivity, utility, and integrity of information (including statistical information) disseminated by the [FAA]"¹⁴⁹ and relied upon by that agency in the conduct of its regulatory activities.¹⁵⁰

§ 3501. Purpose: The purposes of this subchapter 44 USC §§ 3501 et seq.] are to --

- (2) ensure the greatest possible benefit from and maximize the utility of information created, maintained, used, shared and disseminated by or for the Federal Government;
- (4) improve the quality and use of Federal information to strengthen decisionmaking, accountability, and openness in Government and society;
- (5) minimize the cost to the Federal Government of the creation, ... maintenance, use, dissemination and disposition of information;
- (9) ensure the integrity, quality, and utility of the Federal Statistical system.

The fact that these four FAA/CAMI studies are disseminated via the CAMI website poses a particular hazard that makes honest, prompt, affirmative, and conscientious agency (and OMB) responsiveness to this complaint important.¹⁵¹

¹⁴⁸ With Kay (1993), the flaw was purposeful: an extra-contractual reanalysis intended to produce a specifically desired result. The "age 63" suggestion.

¹⁴⁹ 44 U.S.C. § 3516 (Note). OMB Final Guidelines, 67 Fed.R. 8452 *et seq.*, *passim*.

¹⁵⁰ 44 U.S.C. § 3501

¹⁵¹ OMB Final Guidelines, 67 Fed.R. 8452 *et seq.*

It is crucial that information Federal agencies disseminate meet these guidelines. In this respect, the fact that the Internet enables agencies to communicate information quickly and easily to a wide audience not only offers great benefits to society, *but also increases the potential harm that can result from the dissemination of information that does not meet the basic information quality guidelines.* [At 8452, emphasis added.]

Even though some of the studies (e.g., OTA, Billings, etc.) can be argued as "not agency initiated or sponsored," their having been referenced and affirmatively endorsed by the FAA in all these Reports, make them subject to the Paperwork Reduction and Data Quality Acts' dissemination prohibitions.¹⁵²

... [I]f an agency, as an institution, disseminates information prepared by an outside party in a manner that reasonably suggests that the agency agrees with the information, this appearance of having the information represent the agency views makes the agency dissemination of the information subject to these guidelines. [At 8454.]

Furthermore, any and all of the earlier studies embodying flawed and misleading methodologies and results that are now referenced in these four AAM-00-A-HRR-520 Reports¹⁵³ become subject to the Paperwork Reduction and Data Quality Acts' citizen complaint mechanisms - irrespective of when first disseminated.¹⁵⁴

The agency's administrative mechanisms, under paragraph III.3., shall apply to information that the agency disseminates on or after October 1, 2002, regardless of when the agency first disseminated the information. [Guidelines, paragraph III.4., reproduced at 67 Fed.R. 8452, 8459.]

This complaint raises - and invokes where appropriate - OMB supplemental guidance for implementing the Paperwork Reduction and Data Quality Acts' requirements such as is set forth in - but not limited to - the Memorandum for the President's Management Council dated October 4, 2002, Subject, Executive Branch Implementation of the Information Quality Law. In this Memorandum, John Graham, Administrator, OMB, sets forth its oversight guidelines for ensuring agency adherence to

¹⁵² OMB Final Guidelines, 67 Fed.R. 8452 *et seq.*

¹⁵³ For illustration only: Booze (1977), Golaszewski (1983, 1991, 1993), Kay (1993) *extra-contractual addendum*, etc.),

¹⁵⁴ OMB Final Guidelines, 67 Fed.R. 8452 *et seq.*

policy and procedures required by the Acts. Among these, is the requirement that executive branch agencies

provide OMB with a copy of the following types of complaints that are received and are "accepted" for a formal written agency response (i.e., excluding "frivolous" complaints and those complaints that are handled informally):

1. Complaints relating to major policy questions that are likely to be of strong interest to two or more Federal Agencies ...;
2. Complaints involving "influential" information where an allegation has been made that the dissemination violated one or more of the provisions of OMB's government guidelines. [At p. 3.]

The FAA's age 60 rule has been denounced repeatedly by the EEOC since its creation in the late 1970s.¹⁵⁵ That a rule sustained over 40-plus years in the face of

¹⁵⁵ EEOC Chairman Tony E. Gallegos wrote to the FAA Office of Chief Counsel, October 14, 1993:

[T]he U.S. Equal Employment Opportunity Commission...enforces the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. 6212 et seq. (ADEA) and also provides leadership and coordination for all Federal agencies' EEO programs under executive Order 12067. The Executive Order requires the FAA to coordinate with EEOC to insure that its rules are consistent with the Commission's interpretation of the ADEA. Under the ADEA, it is unlawful for an employer to have a maximum age limitation for its employees unless the employer can establish that the age limitation is a bona fide occupational qualification (BFOQ) 'reasonably necessary to the normal operation of the particular business.' 29 U.S.C.A. 623(f)(1) (West 1985).

.....

The EEOC does not believe that a chronological age limitation for commercial pilots is a BFOQ because pilot skills and health can be assessed accurately on an individual basis, regardless of age. Indeed, the FAA itself relies on individualized testing as a basis for issuing medical certificates to people of all ages, including those 60 and above, who serve as pilots in non-Part 121 flight operations. Moreover...EEOC's experts have testified that Class I medical testing is fully sufficient to identify health or performance problems that may surface for pilots

continuing controversy is a "major policy issue" is not open to question. Nor is the fact open to debate that this letter complains that FAA has violated most - if not all - of OMB guidelines.

Moreover, the appearance - across decades - of the FAA's massively flawed and misleading data in international fora (e.g., ICAO and Australian courts, to name two) should embarrass not merely the FAA, but America's government as a whole. FAA's indefensible defense of the age 60 rule has, in at least the Australian court system, held the United States, the FAA's efforts, and the rule's defenders (e.g., Golaszewski and Billings) up to ridicule.

If any agency "information related" conduct deserves to be reversed under the Paperwork Reduction and Data Quality Acts' standards - through oversight scrutiny, if necessary - FAA's 40-plus year indefensible defense of its age 60 rule stands as a prime example. Lest there be any question at FAA regarding the applicability of OMB oversight authority, however, a copy of this complaint will be forwarded to OMB at the same time and in the same manner as to the FAA.

I am an "affected person" with standing to issue this complaint.

I am a retired airline pilot - forced to leave the pilot's seat on my 60th birthday. I possess a current ATP license, number 1668076, with both the ratings and experience necessary to fly modern air carrier type aircraft. Thus, I am eligible to apply to the FAA for an exemption to its age 60 rule. My eligibility is made meaningless, however, by the FAA's decades-long, indefensible promotion of flawed, false, and misleading information (including statistical information) that it undoubtedly knew to be false, flawed and

In sum, the Age 60 Rule should be lifted by the FAA. Medical and proficiency tests on an individual basis are effective and non-discriminatory ways to assure that commercial pilots maintain the highest standards of safety at all ages."

Chairman Gallegos' letter also noted that EEOC Chairman Clarence Thomas (now Justice of the U.S. Supreme Court) had written an August 12, 1986 letter urging FAA Administrator Donald Engen to grant age 60 exemptions for 39 airline pilots so they could take part in a study proposed by the NIA panel.

misleading in order to support its rule. My eligibility to apply for an exemption is further made meaningless by the FAA's refusal over the decades to define any meaningful standard against which a petition such as I might submit would be judged. Only when - IF - the FAA decides internally, or is required by external forces, to confront the question honestly and fairly, will a petition such as I might submit be judged fairly, and my eligibility become meaningful.

CONCLUSION

The FAA should, on its own authority and at a minimum:

- 1) publicly disavow as methodologically flawed all "statistical" representations of increased risk above age 60 that have been proffered in support of its age 60 rule;
- 2) publicly and explicitly disavow the 1983 Golaszewski Flight Time Study as methodologically flawed, and its results inappropriate for age 60 rule analysis;
- 3) remove all four of the OAM Research Task AAM-00-A-HRR-520 reports from its CAMI website;
- 4) post in their place an explanation that the reason for their withdrawal is their flawed natures;
- 5) remove the seven paragraphs of Kay's extra-contractual addendum to his Consolidated Database Experiments; and
- 6) remove from distribution all "age 60" studies - including the four most recent FAA/CAMI studies - that include data corrupted by the Age 60 Rule Effect.

In addition to the above minimal necessary actions, FAA, in consultation with EEOC and OMB, should also consider:

- 7) transferring responsibility and authority for all age 60 rule determinations to EEOC in recognition of the FAA's institutional bias as demonstrated throughout its 40-plus year involvement with the issue, and in recognition of the EEOC's legislatively conferred authority, long involvement with, and demonstrated expertise in age-related employment issues; and

8) transferring responsibility and authority for all the FAA's statistical activities to the Director, OMB, in recognition of its own 20-plus years of bias and failures as are disclosed here, and in consideration of the duties and responsibilities defined by 44 U.S.C. §§ 3504(d), (e)(1)-(8), and with this responsibility to remain at OMB until the FAA's integrity and expertise in the statistical field become credible and verifiable through the training available under § 3504(9).

If FAA is unable or unwilling to undertake these actions on its own, the DOT/FAA should be required to do so by OMB through its oversight authority arising under the Paperwork Reduction and Data Quality Acts.



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cc: John D. Graham, Administrator, OMB
Cari M Dominguez, Commission Chair, EEOC

NOTE: Most documents cited herein should be available through the FAA.
For any that are not, I will provide copies on request.